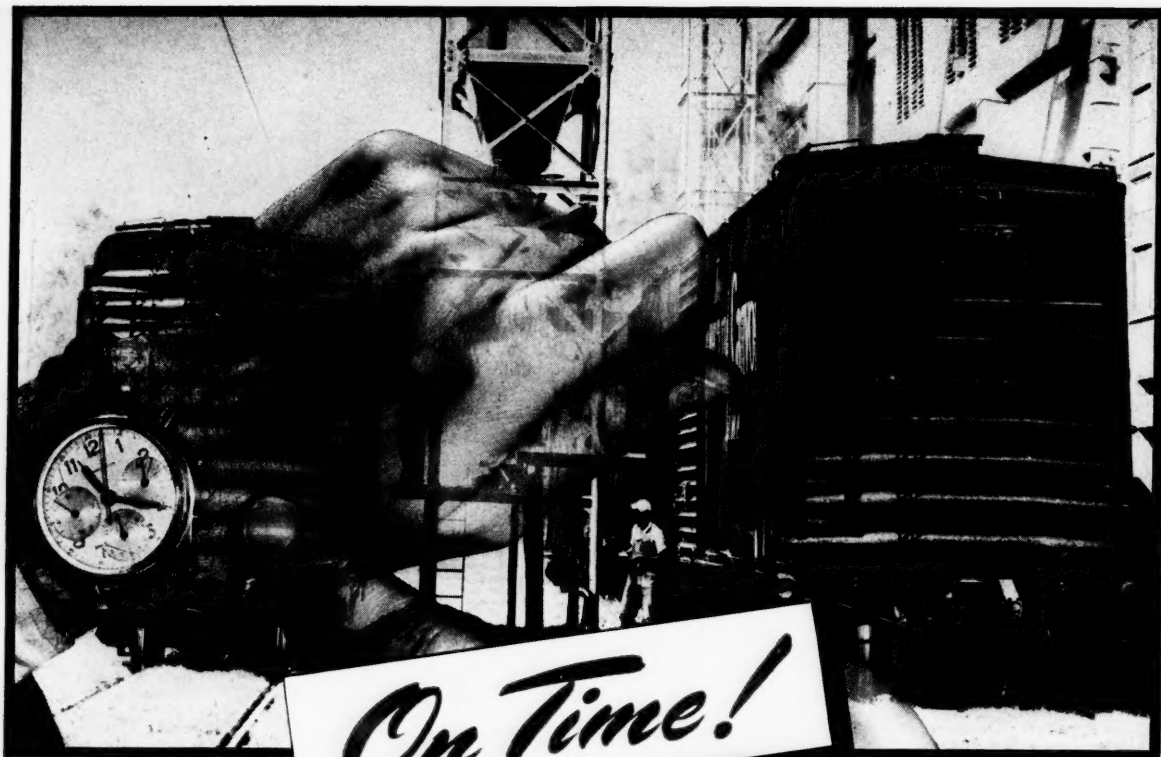


APR 8 1947

SCIENCE





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PROMPT, efficient handling of orders for International Phosphate Rock is as characteristic of International service as is the quality of the product itself.

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MANUFACTURERS RECORD

ESTABLISHED 1882

A Publication for Executives

Volume 116

APRIL, 1947

Number 4

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Cover Illustration—Fibre made from casein winds onto spools at the new Salisbury, Md. brush manufacturing plant of the Rubberset Company, which is using a process resulting from basic research at the Eastern Regional Laboratory of the United States Department of Agriculture's Bureau of Agricultural and Industrial Research. See page 32 for article—"Brushes from Milk."

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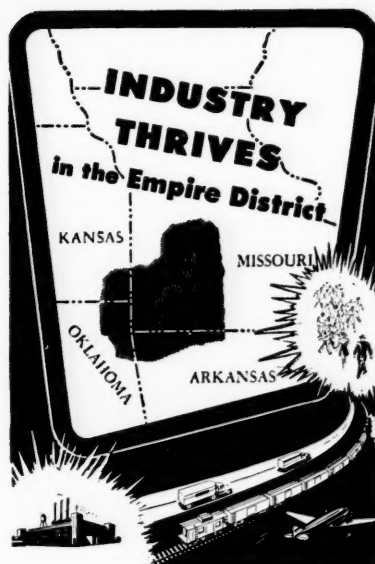
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- U-S-S Stainless Steel.
- Ground Open Hearth Basic Slag.

"SOIL AND THE SOUTH" is the title of a new color movie which makes a vivid presentation of the importance of a prosperous agriculture to every Southerner. It suggests the steps southern farmers may take to combat the dangers of soil depletion and erosion and increase the fertility of their lands, and it points up the importance of diversified farming as a method of improving soil, stepping up production and increasing income.

This new movie is both highly entertaining and completely authoritative. It dramatizes the predicament of a southern farmer who has seen his farm yield decrease year by year as the fertility of his lands is exhausted. With the assistance of his local banker, county agent and soil conservation representative, he finally wins the battle to

rebuild his soil. The film was produced by professionals under the direction of the Tennessee Coal, Iron & Railroad Company with the assistance and cooperation of agricultural experiment stations, college extension services and the soil conservation service of the southern states.

We expect that "Soil and the South" will have a wide showing before civic organizations, farmers, agricultural students, soil conservation groups and others interested in a prosperous southern agriculture. If you are interested in available dates for showing this film, write for further information to Tennessee Coal, Iron & Railroad Company, Birmingham, Alabama.

We have prepared this movie because we firmly believe in this principle: *It's good business for all business to help the farmer.*

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UNITED STATES STEEL

NEW AND EXPANDING PLANTS

COMPILED FROM REPORTS PUBLISHED IN THE DAILY CONSTRUCTION BULLETIN

ALABAMA

BIRMINGHAM — Avondale Mills, 3830 First Ave., N., humidifying building, \$50,000.
BIRMINGHAM — Alabama Power Co., 600 N. 18th, addition.
BIRMINGHAM — American Brake Shoe Co., 700 Sixth Ave., S., office, locker rooms and wash rooms.
MONTGOMERY — Dairy Producers, 705 S. McDonough, milk processing and ice cream factory, \$125,000.
SHEFFIELD — City Power & Water Co., warehouse and work shop, \$30,000.
SILURIA — Buck Creek Cotton Mills, addition to cotton mill plant and machine shop, \$175,000.

ARKANSAS

LITTLE ROCK — Westinghouse Electric Corp., electric lamp plant, \$1,000,000.
McGEHEE — J. A. Riggs Tractor Co., remodeled and enlarged building, \$30,000.
MONTICELLO — Monticello Charm Tred Mills, Inc., cotton rug factory, \$25,500.
NORTH LITTLE ROCK — Russell & Co., Eighth & Main, expansion of venetian blind plant, \$150,000.
NORFOLK — Southwestern Power Administration, 60 miles of 154,000 volt transmission line, \$819,775.
URBANA — Urbana Lumber Co., rebuild sawmill.

DISTRICT OF COLUMBIA

WASHINGTON — Francis E. Pope, warehouse, \$15,000.

FLORIDA

CORAL GABLES — Renuart Lumber Co., Inc., 226 Alhambra Circle, \$33,000 warehouse, 4400 Ponce de Leon Blvd.
HALEAH — Sea Shore Realty, Inc., 420 Lincoln Road, Miami, iron works plant, 71 W. 21st St., \$14,500.
LACOCHEE — Cummer Sons Cypress Co., rebuild sawmill.
MIAMI — Miami Pineapple Plantation, 13000 NE 6th Ave., quick freeze plant, 500 NE Miami Gardens, \$150,000.
MIAMI — Royal Palm Ice Co., 438 SW 17th Ave., ice cream plant, \$17,000.
MIAMI — Roberts Supply Co., 300 NE 72nd St., warehouse addition.
MIAMI — June Dairy Products Co., 1773 NW 7th Ave., dairy plant, \$250,000.
MIAMI — Florida Power & Light Co., 25 S. E. Second Ave., addition to steam electric generating plant, \$530,000.
PANAMA CITY — Panama City Shirt Co., shirt factory.
SANFORD — William Davidson, bus station, \$22,000.
TAMPA — Florida Portland Cement Co., 305 Morgan St., \$1,250,000 expansion program.

GEORGIA

ALBANY — Dougherty County Motors, Inc., sales and service building, \$92,544.
ALBANY — Georgia Power Co., 75 Marietta St., Atlanta, steam electric plant, \$650,000.
ATLANTA — Georgia Transportation & Realty Co., freight terminal warehouse and office building, Boulevard & Irwin St., \$93,000.
ATLANTA — Rex Bottling Co., 340 Courtland St., NE, bottling plant, \$28,000.
ATLANTA — Union Box Manufacturing Co., 325 Glenn, SW, addition to manufacturing plant, \$60,000.
ATLANTA — Simmons Co., 353 Jones Ave., NW, bed manufacturing plant, \$120,000.
ATLANTA — Sherwin Williams Co., 70 Broad, NW, paint plant, \$1,000,000.
ATLANTA — Southern Railway Co., 99 Spring, SW, control tower.
ATLANTA — Acme Steel Co., 603 Stewart Ave., SW, office and warehouse, \$60,000.
ATLANTA — Cluett-Peabody & Co., Inc., 2022 Murphy Ave., SW, warehouse.
ATLANTA — Georgia Milk Producers Confederation, Inc., 661 Whall, SW, building on Lee St. at Harmon Ave.
ATLANTA — Firestone Tire & Rubber Co., 659 Whall, SW, office and warehouse building.
ATLANTA — Orkin Exterminating Co., Inc., 315 Peachtree, NE, remodeling building.
BAINBRIDGE — Adel Brothers Shirt Co., shirt factory, \$100,000.
CARTERSVILLE — E-Z Mills, Inc., Johnston St., manufacturing plant, \$66,000.
CHAMBLEE — Westinghouse Electric Manufacturing Co., office and warehouse, \$500,000.
COLUMBUS — Swift Manufacturing Co., addition to plant, \$50,000.
COLUMBUS — Bradley Realty & Investment Co., warehouse, \$75,000.
COLUMBUS — Southern Trading Co.,

slaughtering and meat processing plant, \$65,000.

COLUMBUS — Strickland Motor Co., automotive building, \$197,400.

DECATUR — Georgia Milk Producers, 661 Whall, SW, Atlanta, milk depot, \$12,360.

DORAVILLE — Atlantic Refining Co., 2605 Broad, Philadelphia, Pa., \$300,000 office and warehouse.

LAGRANGE — City, natural gas system, \$1,500,000.

MACON — Columbia Naval Stores Co., 664 Broadway, warehouse, \$12,000.

MOLTRIE — Moultrie Truck & Tractor Co., farm machinery sales and service building, \$25,000.

SAVANNAH — Seaboard Airline Railroad Co., Plume & Granby, Norfolk, Va., control building, \$65,000.

UNADILLA — Scott Peavy & Scott, peanut processing plant and storage building.

UNION POINT — Morgan Motor & Implement Co., repair and service to farm machinery, \$32,018.

VALDOSTA — Pasier Products Co., 1901 W. Division, Chicago, Ill., food processing plant, \$35,000.

VALDOSTA — Warlick Flooring Co., P. O. Box 524, tobacco warehouse.

KENTUCKY

GREENSBURG — E. V. Dulworth & G. O. Burress, tobacco warehouse, \$19,235.

HORSE CAYE — Moss Tobacco Co., storage vaults, \$14,000.

LEBANON — Pepsi-Cola Co., carbonated beverage bottling plant.

LEXINGTON — Southeastern Greyhound Lines, 801 N. Lime, bus depot and office building, \$500,000.

LEXINGTON — Kentucky Utilities Co.,

New and
Expanding Plants
Reported;
February-242
1947 to
date-510

First National Bank Bldg., 10-year expansion and construction program, \$17,800,000.

LEXINGTON — Baugh and Garner, 237 N. Lime, furniture warehouse, \$15,000.

LOUISVILLE — Southern Bell Telephone and Telegraph Co., 521 N. Chestnut, expansion.

PADUCAH — Magnavox Co., supply plant, North Eighth St., \$1,350,000.

LOUISIANA

ALEXANDRIA — Red River Cotton Oil Co., rebuilding warehouse.

AKNAULVILLE — J. W. Carruth Pipe Line Corp., 904 Louisiana National Bank Bldg., Baton Rouge, \$126,000 natural gas transmission system.

BATON ROUGE — Standard Oil Co. of New Jersey, P. O. Box 551, building.

BATON ROUGE — Ethyl Corporation, \$750,000 drumming plant.

BATON ROUGE — General Equipment, Inc., 435 Richland Ave., modern building.

GREYNA — Southern Cotton Oil Co., refinery plant.

LAKE CHARLES — Wollman-Allen, garage.
GRAND ECOILLE — Freeport Sulphur Co., American Bank Bldg., New Orleans, \$218,815 addition to power plant and \$67,830 chemical building.

NEW ORLEANS — Standard Oil Co. of New Jersey, 2134 St. Charles Ave., oil service station in Shreveport.

NEW ORLEANS — Food Freezer, Inc., frozen food locker plant on Washington Ave. and S. Dupre St.

NEW ORLEANS — Southern Bell Telephone & Telegraph Co., \$500,000 addition.

NEW ORLEANS — Robert S. Matestri, storage garage, N. Rampart and Iberville Sts., \$350,000.

NEW ORLEANS — New Orleans Petroleum Corp., Chalmette, service station.

SHREVEPORT — Blue Grass Liquor Co., 1149 Texas Ave., garage building.

SHREVEPORT — Hollis & Co., 618 Commerce St., building for factory and railroad supplies, \$62,000.

MARYLAND

BALTIMORE — Baltimore and Ohio Railroad Co., latex storage building, Pier 3, Locust Point.

BALTIMORE — Baltimore Transit Co., bus operation base at Eastern Ave. and Oldham St. and one at Kirk Ave.

BALTIMORE — Johns Hopkins University, manufacturing plant, \$20,000, 1600 S. Clinton St.

BALTIMORE — William G. Wetherall, Inc., 317 President, alterations to building.

BALTIMORE — Branch Motor Express Co., Central & Eastern Aves., shipping terminal, 110 S. Kingson St., \$100,000.

BALTIMORE — Samuel Cohn, 100 S. Hanover St., alterations to building, \$15,000.

BALTIMORE — Stonewall Corp., 13 W. 25th St., building at 6325 Erdman Ave., \$14,000.

BALTIMORE — Gunther Brewing Co., 1211 S. Conkling, brewery and office building, \$1,500,000.

BALTIMORE — Talbott Motor Co., Inc., 3421 Greenmount Ave., alterations, \$10,000.

BALTIMORE — Publication Press, Inc., 1511 Guilford Ave., printing building, 200-10 N. Bentalon St., \$30,000.

BALTIMORE — Kimball Tyler Co., Inc., 261 South Haven, lumber drying building, \$10,000.

BALTIMORE — James Gibbons Co., Relay, storage building, 3425 Sixth St., \$10,000.

BALTIMORE — Hartford Motor Coach Co., 2739 Greenmount Ave., garage terminal, \$20,600.

BALTIMORE COUNTY — Bare Hill Quarry Co., 1301 Towson St., stone crusher plant, \$15,000.

BALTIMORE COUNTY — Sherwood Brothers, Inc., 10 Light St., Baltimore, service station, Loch Raven Blvd. & Taylor Ave., \$15,000.

BALTIMORE COUNTY — Southern States Cooperative, 2101 E. Fort Ave., Baltimore, bulk station, \$14,500 and service station, \$23,500.

RELAY — Calvert Distilling Co., 7th St. Road, Louisville, Ky., pumping station.

SEVERN PARK — Chesapeake & Potomac Telephone Co., 329 St. Paul St., Baltimore, central office and repeater station.

SPARROWS POINT, BR. BALTIMORE — Bethlehem Steel Co., steel mill, \$231,000.

TOWSON — E. Tilden Kelbaugh, service station, York Road near Washington Ave.

MISSISSIPPI

BASFIELD — Jefferson Davis County, Prentiss, new holsery mill, \$37,580.

BROOKHAVEN — Halliburton Oilwell Cementing Co., casing cement plant, \$45,000.

BROOKHAVEN — H. A. Burris and Sidney Beasley, milk pasteurization plant, \$10,000.

COLUMBIA — Pearl River Valley Electric Power Assoc., new office and garage, \$65,000.

DREW — City, ladies garment factory, \$96,000.

FOREST — City, garment factory, \$135,000.

JACKSON — Mississippi Light & Power Co., 246 E. Capitol, remodeling building, South Congress St., \$11,263.

LAUREL — Woodall Industries, Inc., manufacturing building, \$245,000.

TUPELO — Daybrite Co., fluorescent light fixture plant, \$200,000.

WALNUT — Tippah County, Ripley, manufacturing plant for chenille robes and bedspreads.

YAZOO CITY — Dixie Greyhound Lines, bus station.

(Continued on next page)

NEW AND EXPANDING PLANTS

(Continued from preceding page)

MISSOURI

JOPLIN — Gateway Creamery Co., creamery building.
KANSAS CITY — Millstein Brothers, warehouse, \$14,000.
SEDALIA — Missouri Pacific Lines, rebuilding program.
ST. LOUIS — Royal Packing Co., 1719 Vandeventer, alterations to packing house, \$910.18 Cote Brillante, \$56,300.
SPRINGFIELD — Swift and Co., improvements for manufacture of dairy products, \$93,414.
SPRINGFIELD — Cherry-Kimbrough, Inc., building to house offices and stores, corner of Cherry and Kimbrough, \$97,000.

NORTH CAROLINA

CARY — Washington Food Co., peanut potato processing and packing plant, \$102,500.
CHARLOTTE — Parks-Cramer Co., manufacturing building and rebuilding shipping department, \$35,000.
CHARLOTTE — Pettit Motor Co., auto motor rebuilding, \$35,000.
CLIFFSIDE — Duke Power Co., Charlotte, power plant, \$595,000.
GREENSBORO — R. J. Reynolds Tobacco Co., Winston-Salem, tobacco drying plant.
HANES — F. H. Hanes Knitting Co., cafeteria, \$58,500.
HAW RIVER — Cone Finishing Co., improvements, \$54,400.
HENDERSONVILLE — A. S. Browning, Jr., Kalmia Dairy plant, \$134,976.
LINCOLNTON — Lincoln Motor Co., garage, \$15,000.
MOREHEAD CITY — Montgomery Aldridge Co., laundry.
REIDSVILLE — Reidsville Storage Co., \$20,000 construction program.
SHELBY — Riviere Oil Co., warehouse and office, \$10,000.
SPRUCE PINE — Harris Clay Co., building, \$24,500.
TAYLORSVILLE — Hadley Mills Co., Holyoke, Mass., \$1,000,000 silk plant.
WINSTON-SALEM — Robert V. Brawley and Archibald Craige, factory on Brookstown Ave. and Trade St.
WINSTON-SALEM — Western Electric Co., factory, service building, parking facilities, dispensary, restaurant and facilities for indoor entertainment.
WINSTON-SALEM — Hine and Gore, Inc., 308 South Marshall St., warehouse and cold storage plant, \$27,000.

OKLAHOMA

MADILL — Kraft Foods Co., farm and dairy equipment, \$10,747.
MUSKOGEE — Corning Glass Works, Corning, N. Y., heat resistant glassware plant.
OKLAHOMA CITY — L. P. Freeman, 2835 NW 10th, farm and dairy equipment, \$12,000.
TULSA — Alumi-Tile Corp., plant, 328 E. First St.

SOUTH CAROLINA

CHARLESTON — Oak Ridge Manufacturing Co., plant, \$100,000.
CHARLESTON — Shell Oil Corp., bulk terminal, \$70,000.
CHARLESTON — Coastal Terminals, Inc., six new storage tanks, \$120,000.
CLOVER — Joe L. Smith, garage, repair shop and sales room.
COLUMBIA — South Carolina Electric & Gas Co., power project on Saluda River.
GREENVILLE — Higginbotham Implement Co., 1000 Laurens Rd., service and storage of farm machinery, \$14,750.
JERICHO — Kingstreet Lumber Co., planing mill, \$200,000.
PAMPICO — Pamplico Warehouse, Inc., produce warehouse, \$100,000.

TENNESSEE

CHATTANOOGA — Chattanooga Linen Service, 107 W. 10th St., laundry, \$250,000.
CHATTANOOGA — Turnbull Cone and Machine Co., 1400 Fort, addition, \$100,000.
DAYTON — Chickamauga Producers, Inc., new freezing tunnel.
DECATURVILLE — Peoples Industrial Development Corp., plant.
MEMPHIS — Central Soya Co., Inc., Fort Wayne, Ind., remodeling and construction program, \$500,000.
NASHVILLE — Velvet Ice Cream Co., Sixth Ave. and McGavock St., expansion program, \$75,000.
NASHVILLE — Central Bus Lines, Inc., garage for servicing and repairing buses, \$80,000.
PARIS — Motor Sales Co., repairs to garage.

TEXAS

Magnolia Pipeline Co. of Beaumont, \$3,531,000 addition to \$7,575,000 pipeline system.
BAY CITY — J. E. Hanson, 2226 Avenue F, auto supply building, \$25,000.
BAY CITY — Independent Rice Warehouse, Inc., silo type warehouse, \$200,000.
BEAUMONT — Frank W. Lombard, bottling plant, \$25,000.
BEEVILLE — L. R. Hollingsworth, frozen food locker plant.
BISHOP — Bishop Grain & Implement Co., new building.
CORPUS CHRISTI — Caller-Times Corp., \$20 Lower Broadway, addition.
CORPUS CHRISTI — Knolle Jersey Milk Products Co., 1531 South Staples St., addition.
CORPUS CHRISTI — Scoggin Brothers, remodel and repair Nueces Hotel Garage.
CORPUS CHRISTI — Port Fish Market, 2524 Water, building.
DALLAS — Herace Butler & C. O. Johnson, 2907 San Jacinto, warehouse, \$55,400.
DALLAS — Union Terminal Co., Young and Houston Sts., alterations and additions to building.
DALLAS — Russell-Miller Milling Co., 2400 S. Ervay St., addition, \$11,500.
DALLAS — H & N T Freight Lines, 1101 Cadiz, loading dock addition, \$20,000.
DALLAS — Superior Ring & Carpet Co., 3215 Oak Grove, addition to cleaning plant, \$20,000.
DALLAS — Pure Ice & Cold Storage Co., 906 S. Harwood St., addition to fourth floor of building, \$21,000.
DALLAS — Hollywood Manufacturing Co., 6125 Denton Drive, sprinkler system in factory.
DALLAS — A. D. Martin, 1625 Cedar Springs, warehouse, \$35,000.
DALLAS — Texas Housing Co., 9002 Denton Drive, warehouse, \$14,175.
DALLAS — B-I Bottling Co., bottling and distributing plant, 2613 Second St.
DALLAS — Lone Star Gas Co., 1915 Wood, remodeling gas building, \$13,000.
DALLAS — H. A. Rabinowitz, Republic Bank Bldg., building for rubber testing, \$11,300.
DALLAS — Bertucci & Milholland, 108 N. Carroll St., laundry building, \$15,000.
DALLAS — Keesler Housing Corp., Praetorian Bldg., two buildings to be used by trailer camp, \$10,000.
DALLAS — Joe Varcasia, 2501 Bryan St., warehouse and fish market, \$45,000.
DALLAS — Anderson Furniture Co., 2101 Elm, remodeling furniture building.
DICKINSON — Frank B. McRee, auto sales building, \$30,000.
DILLEY — American Silk Corp., 5006 Gaston Ave., silk producing plant.
EDINBURG — J. C. Looney FM radio station.
FORT WORTH — Mrs. T. L. Kleinschmidt, bakery, 3200 Block W. 7th St., \$20,000.
FORT WORTH — West Texas Bag & Burlap Co., 704 N. Main, factory building, \$10,000.
FORT WORTH — O. L. Hartman & H. M. Tucker, 513 S. Main St., factory building, \$10,000.
FORT WORTH — General Portland Cement Co., extension of burning platform and kiln, \$50,000.
FORT WORTH — Pangburn Candy Co., 1307 W. 7th St., alterations to building, \$110,000.
FREERPORT — Dow Chemical Co., main process building, starter building, control building, office building, warehouse, \$5,000,000.
HOUSTON — Mrs. Baird's Baking Co., 1925 W. Gray Ave., addition, \$300,000.
HOUSTON — Texas Eastern Transmission Co., \$40,000,000 to expand capacities of Big and Little Inch pipelines.
HOUSTON — Webb Mading, 1005 Jackson St., addition to building.
HOUSTON — Westinghouse Electric Corp., manufacturing and repair shop, Clinton Drive and Kress St., \$703,833.
HOUSTON — Sheffield Steel Corp., addition to plant on Industrial Road, \$690,000.
HOUSTON — Pittsburgh Plate Glass Co., improvements to plant, \$500,000, Liberty Road.
HOUSTON — Pure Oil Co., Niels Esperson Bldg., \$9,000,000 refinery expansion for Smith's Bluff plant.
HOUSTON — Mission Manufacturing Co., 5200 Humble Road, manufacturing plant, \$52,000.
HOUSTON — General Truck Co., plant buildings and warehouse, \$150,000.
HOUSTON — South Texas Equipment Co., 6 N. Latham St., building, 5000 Navigation Blvd., \$125,000.
HOUSTON — Downtown Chevrolet Co., garage, \$20,000, Austin St. at Lamar Ave.
HOUSTON — Sullenger's Select Meat Co., packing plant, Sabine & Maud Ave.
HOUSTON — Houston Packing Co., 3301 Navigation Blvd., packing plant, \$50,000.
HOUSTON — Lighting Express Co., 1108 Holly St., warehouse, \$500,000.

HOUSTON — Houston Post, 2318 Polk St., remodeling building, \$15,000.
HOUSTON — American Rice Growers Co-operative Association, 7300 Washington, addition to rice drying plant, \$14,000.
HOUSTON — Southern Warehouse Corp., Japhet St., wood frame building, Clinton and Hill St., \$18,000.
HOUSTON — Baker Oil Tools, Inc., loading dock, 6023 Navigation Blvd., \$14,800.
HOUSTON — Earle North Buick Co., \$18,250 addition to plant, 2215 Milam St.
HOUSTON — Sanitary Farms Dairies, Inc., 1800 W. Gary Ave., additions to building and ice cream plant, \$100,000.
HOUSTON — J. W. Lander, 1703 Sunset Blvd., warehouse, 3500 W. Dallas Ave.
HOUSTON — J. T. Thorp Co., 528 Cotton Exchange Bldg., warehouse, Clay Ave., at Hughes St.
HOUSTON — C. E. Butcher, 3702 Wheeler Ave., \$55,000 laundry building, 7000 Block Landale Ave.
KERMIT — Floyd Amburgey, laundry building, \$10,000.
LAREDO — Joe Vidales, warehouse and office building, \$25,000.
LAREDO — F. Pasquel & Brothers, warehouse and office, \$50,000.
ORANGE — Sabine Supply Co., warehouse.
PORT ARTHUR — Gulf Oil Corp., manufacturing plant, laboratory building addition.
SAN ANGELO — Ed Steves & Sons, 704 E. Commerce St., prefabricated army warehouse.
SAN ANTONIO — Armstrong Tire & Rubber Co., Natchez, Miss., building, 6050 San Pedro Ave.
SAN ANTONIO — General Hotel Supply Co., Dakota and Grape Sts., alterations to building.
SAN ANTONIO — Sunshine Laundry & Dry Cleaning Corp., building to adjoin present building.
SAN ANTONIO — City Public Service Board, 201 N. St. Mary's, 25,000 KW addition to Mission Road plant.
SAN ANTONIO — St. Louis Cleaners, 712 S. St. Mary's St., additions to plant.
SAN ANTONIO — Land-Imperial Sugar Co., office and laboratory building.
TYLER — Ira Hilderbrand, Oakwood & Beckham St., warehouse and cold storage plant, \$75,000.
VERNON — Vernon Industrial Association, Inc., clothing manufacturing plant, \$235,000.
WHITEDEER — J. W. McBrayer, auto sales and garage building, \$35,000.
WINNIE — McCarthy Oil & Gas Corp., chemical plant, \$3,000,000.

VIRGINIA

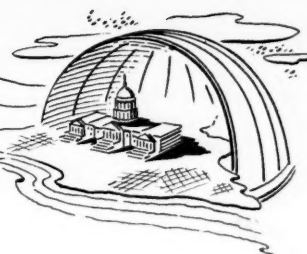
BEDFORD — Virginia Rubatex Division of Great American Industries, addition to plant, \$450,000.
DANVILLE — Virginia Carolina Warehouse, rebuilding plant.
DUBLIN — Mohawk Carpet Mills, Inc., New York, convert New River Ordnance Plant into woolen yarnmill.
LAWRENCEVILLE — Brick and Tile Corp., \$23,000 Quonset building.
LYNCHBURG — Lynchburg Steam Bakery, \$17,000 project.
NORFOLK — Meekins Roughton Motor Corp., 14th and Monticello Ave., garage, \$35,000.
PENNINGTON GAP — Snodgrass Bros., Inc., frozen food locker, \$28,043.
RICHMOND — Tuckahoe Warehouse Corp., 510 W. 9th St., addition to building, \$30,000.
RICHMOND — Acme Fixture Co., 2015 W. Broad St., cinder block building, \$35,000.
RICHMOND — Carrington & Michaux, Inc., 2200 Decatur St., addition to tobacco storage building, \$26,300.
RICHMOND — E. I. du Pont de Nemours and Co., at Amphill Spruance cellophane plant, building project, \$80,000.
SMITHFIELD — P. D. Gwaltney, Jr. & Co., Inc., addition to packing plant.
STAUNTON — Spalding Baking, Inc., improvement to building, \$20,500.
WAVERLY — Chesapeake and Potomac Telephone Co., 703 East Grace St., Richmond, telephone building.
WYTHEVILLE — R. P. Johnson, 355 E. Main St., addition to present building, \$20,000.

WEST VIRGINIA

CEREO — United Fuel Gas Co., and Ohio Fuel Gas Co., transmission pipeline, \$4,400,000.
GLEN DALE — Louis Marx Co., \$500,000 addition to toy factory.
HUNTINGTON — Pilgrim Laundry & Dry Cleaning Co., 1041 Sixteenth St., new plant.
MIDDLEWAY — Berkeley Woolen Co., Martinsburg and Virginia Woolen Co., Winchester, woolen plant in Jefferson County, \$1,000,000.



Potomac Soundings



by

Lawrence Sullivan

Communists and fellow-travelers will find the going a little rough in Washington during the next six months. The recent Supreme Court decision upholding the right of the Civil Service Commission to dismiss a government worker for known Communist sympathies and affiliations, gives the government precisely the power needed to clean house in every department and agency.

For ten years or more, Moscow's fellow-travelers have enjoyed a free hand in the sprawling federal bureaucracy, often finding themselves under the balm protection of some of the highest powers of government.

No one can tell you exactly how many members of the Communist Party are on the federal payroll, but we know the number to be a big one. Successive investigations in Congress over the last decade have revealed Communist party-liners and affiliated fellow-travelers at work on full-time assignments in the Department of Agriculture, State Department, Office of Price Administration, Treasury Department, Civil Service Commission, Interior Department, Department of Labor, National Labor Relations Board, the Rural Electrification Administration and TVA.

The first sworn duty of a Communist affiliate in the United States, when caught in the act, is to deny loyalty or affiliation with the Moscow internationale.

The most recent list of Communist party-liners on the government payroll carried a few more than 2,000 names. It was presented in April 1946 by a member of the House Civil Service Committee, who urged a formal investigation to publish the names, positions, salaries, official duties and party-line affiliations of all fellow-travelers on the federal rolls. This proposal still is before the House Civil Service Committee.

Many Affiliates Well Known

Nevertheless, some of the Communist affiliates in the Washington bureaus are well known by name. One House investigation revealed, for example, that David J. Saposs had been employed in 1937 as chief economist in the National Labor Relations Board. When his fellow-traveler affiliations were disclosed his job was abolished by Congress. But he showed up next, on January 16, 1943, as Assistant Chief of the Labor Division of the War Production Board.

Another fellow-traveler was identified in the published records of Congress as

David Lasser, formerly a union organizer among relief workers in the WPA days.

Lasser told the House Committee he had been invited to Moscow in 1937 as an American delegate to the twentieth anniversary of the Russian revolution. His invitation had come, he explained, from "the Soviet trade unions." His expenses on the trip had been paid by the Workers Alliance of America, the Communist labor union set up to foment strikes and demonstrations among the U. S. relief workers on WPA projects.

On December 11, 1939, Lasser was a visitor at the White House, by appointment with the late President Roosevelt.

When the WPA program was liquidated after Pearl Harbor, Lasser was temporarily unemployed, but not for long. He next appeared on the federal payroll, as Senior Labor Economist in the War Production Board.

FBI Has Submitted Ample Evidence

At one point, in 1942, the FBI submitted 1,597 names to various federal departments and agencies for inquiry as to Communist affiliations. One fellow-traveler was identified as Chief Attorney in the Rural Electrification Administration at \$6,500 a year. Another was Senior Editor, Federal Security Agency, at \$4,600 a year. A third was Assistant Attorney, National Labor Relations Board, \$3,200 year. Another was Assistant Economic Statistician, OPA, \$2,600 a year. Another was Assistant Solicitor, Securities and Exchange Commission, \$6,500 a year. Another was Principal Economist, Department of Agriculture, \$5,600 a year.

So the list ran, through every department and agency of the Federal establishment. In no civilian department could a policy be determined or executed without the routine approval of some Communist party-liner within the agency. In all of these departments there was no such thing as a secret from Moscow.

Early in 1940 Congress passed a law requiring the prompt deportation of any alien discovered in acts of espionage or sabotage, and of all other "subversive aliens" as well. That act of Congress was vetoed by the late President Roosevelt. Since that time the United States has been powerless to protect itself against an ever-rising tide of Communist infiltration in the Executive departments in Washington.

The First Official Action Since 1933

The first criminal indictment against a known Communist on the federal pay-

roll was handed down in Washington, D. C., three months ago. On January 20, 1947, Carl Aldo Marzani, alias Tony Whales, was arraigned before the U. S. District Judge B. J. Laws, on three charges of direct Communist activity in the State Department, the Office of Strategic Services, and the U. S. Army.

Connected with State Department intelligence and the Office of Strategic Services from 1942 until he was dismissed on December 20, 1946, Marzani was charged with concealing Communist activities and working against the best interests of the United States Army of which he at one time was a member.

The indictment returned against the Italian-born, Oxford-educated Marzani charged him with having instructed "various party members concerning a plan, policy and program of the Communist Party having for its purpose:

- (1) "Disintegration of the morale of the military forces in the United States;
- (2) "Teaching the principles of Communism to men in the military forces;
- (3) "Recruiting members for the Communist Party from the ranks of the military forces."

Marzani, a naturalized citizen, also was accused of falsely representing to Government officials that he had never been a member of or contributed services to the Communist Party. But the indictment charged him specifically with using the name of Tony Whales in connection with Communist organization work in New York in 1940 and 1941 and with urging defeat of the conscription bill with which the United States sought to build its Army.

While a master sergeant in the Army, attached to OSS, Marzani handled much secret material, including charts, graphs and figures showing strength and deployment of United States forces. He produced a motion picture revealing new equipment of the Army and its strength in various theaters, which was distributed to the higher echelon.

After the fall of Germany, he made a six-months tour of the Occupied Area, gathering information about our troop deployment and incorporating the data into moving pictures.

When the State Department absorbed OSS, Marzani went along as a deputy chief in the presentation division of the department's new security program.

His job dealt with the preparation and dissemination of such material as a reference manual on the revised department

(Continued on Next Page)

Potomac Soundings — by Lawrence Sullivan

(Continued from Preceding Page)
security regulations, a security handbook, and a sound motion picture called "Security of Information."

This indictment was the first official action against an alleged Communist in Washington since 1933. The trial is now under way in Washington.

If you think it curious that such a trial merits little or no attention in your daily newspaper, remember that the American Newspaper Guild, heavily infiltrated by active Communists, finds nothing of public interest in the Marzani trial. For that trial exposes the whole network of international revolutionary Communism boring from within the several departments of our government in Washington.

The Inside Track In State Department Appointments

About sixty days after the indictment of Marzani, we find in the *Congressional Record* for March 13, 1947, the personal history of another officer in the Department of State—one Gustavo Duran. He is assistant to the Assistant Secretary of State, Spruille Braden, who is in charge of Latin-American relations.

This material was inserted in the *Record* by Rep. Alvin E. O'Konski, of Wisconsin.

Duran was born in Barcelona, Spain, November 14, 1906. After completing his university course, he served in the Spanish army in 1928, advancing to the rank of lieutenant colonel. In the Spanish revolution of 1936-39, he was known as "one of the most notorious Communists in all Spain." He migrated to the U. S. in May 1940, and after various odd-jobs in New York and Washington qualified in February 1943 for appointment as an auxiliary foreign service officer in the Department of State. His naturalization necessary to qualify him for the foreign service, had been accomplished with State Department assistance, in six weeks. He was stationed at Havana until May 1945, the end of the war in Europe, and was then transferred to Buenos Aires. In October 1945, he returned to Washington to take his present post at \$8,000 a year as assistant to Mr. Braden. Strange, indeed, that with thousands of bright and capable young men from our own colleges eagerly awaiting foreign service appointments we find this coincidence of two recognized alien Communists, one from Italy and one from Spain, picked up by some mysterious power in Washington, hastily naturalized, and then swept up quickly to considerable places of authority and influence in the Department of State. From what hidden springs of administrative policy came our somewhat general wartime rule that a professed Communist from abroad so often had the inside track in competition for State Department appointments? Perhaps the Marzani trial will give us the answer.

Communism In The American Labor Movement

There has been considerable evidence,

also, bearing upon the infiltration of international Communism into the American Labor movement.

In Moscow, the Communists maintain a tactical school, as they call it, in which labor leaders from other nations are trained in the techniques of mass agitation, class propaganda, labor demonstrations, and mob violence.

In the *Congressional Record* for January 16, 1941, we find the detailed account of a visit to Russia by Walter and Victor Reuther, of the CIO auto workers union. Their letter from Russia, under date of January 20, 1934, was presented before the House by Rep. Eugene Cox, of Georgia.

The letter, addressed to friends in Detroit, relates the joys of life in "the Workers Fatherland." It is significant today chiefly because Walter Reuther now president of the CIO United Auto Workers, and his brother, Victor, is educational director for the UAW, in charge of all propaganda and educational activities for the biggest CIO unit in the U. S. (900,000 members).

The Reuther brothers in 1934 were working in a Soviet auto plant, studying Communist production methods and labor policies. The communication opens with cordial "greetings from the Workers' Fatherland." Then it goes on—

"What you have written concerning the strikes and general labor unrest in Detroit, plus what we have learned from other sources, of the rising discontent of the American workers, makes us long for the moment to be back with you in the front lines of the struggle."

In another passage, the Reuther boys said to their Detroit friends: "You know, Wal and I were always strong for the Soviet Union."

This phrasing indicates that the letter actually had been penned by Victor, the UAW educational director. It was addressed to Melvin Bishop, of Detroit.

"Mel, you know Wal and I were always strong for the Soviet Union," the text goes on. "Now that we have actually experienced the thrill, the satisfaction, of participating in genuine proletarian democracy, we are more than just sympathetic toward our country, we are ready to fight for it and its ideals."

After a few more paragraphs of personal chit-chat, the communication closed with the salute:

"Carry on the fight for a Soviet America!"

The letter was signed, "Vic and Wal."

Walter Reuther has denied publicly on many occasions that he is a Communist, or that he is overly cordial to Communist aims in America.

The Case of Harry Bridges

Soon after the historic Michigan sit-down strikes, the case of Harry Bridges, West Coast maritime leader, came to the attention of the Senate Merchant Marine Committee. In an address before a student forum at the University of Washington, Seattle, on May 14, 1937, Bridges had outlined the program of his Longshoremen's Association in these words:

"Our policy is one of class struggle. Our policy is that we have nothing in common with employers. There'll come a time when there aren't any employing class any more, and we subscribe and look forward to that day."

A photostat of Harry Bridges' membership card in the Communist Party was received by the Copeland Committee in February 1938. Soon afterward, Secretary of Labor Frances Perkins asked the Senate Committee to submit its Bridges file to the Labor Department for study, as a possible basis for deportation proceedings. Six months later, in August 1938, the Dies Committee asked the Labor Department for the Bridges file, for study, nothing having happened since Secretary Perkins took over the case in February. In due course, the Bridges file was transmitted to the Dies Committee, but now the photostat of Harry's Communist membership card was missing!

It has never been seen since. Because it was the basic evidence in the deportation proceeding, Bridges was never deported.

Reviewing a series of such incidents, Chairman Dies told the House on October 29, 1938:

"The Labor Department files reveal a strong bias on the part of Madame Perkins and the Department of Labor in favor of Harry Bridges, and an effort on their part to protect rather than deport him."

All these events still have a timely bearing on the vital issue of Communism within the federal structure today, for Madame Perkins is now a member of the U. S. Civil Service Commission, the only agency empowered to remove subversives from the government payroll.

The CIO, Communism, and the Federal Government

An intimate tie between CIO communism and government operations was revealed before the House Labor Committee on March 14, 1947, when Louis R. Budenz, former editor of the *New York Daily Worker*, described the official conduct within the Communist Party executive committee of one "Comrade Juniper."

Juniper later was identified as Julius Emspak, secretary-treasurer of the United Electrical, Radio and Machine Workers of America, third largest unit in the CIO. In addition to serving as a member of the Communist Party's Executive Committee, he also is a member of the CIO's national executive board. In 1944 he was nominated by President Roosevelt as a member of a special six-man committee to promote labor peace in war industries. In July 1946 CIO President Phil Murray appointed Emspak a member of the five-man junta which took over direction of the CIO Political Action Committee following the death of Sidney Hillman.

This is the first time since 1933 that a member of the Communist Party's national executive committee has been positively identified as a ranking official of both a CIO trade union and the PAC. The testimony soundly supports, therefore, the conclusion published by the House Committee on Un-American Activities in 1942 that "the political views and philosophy of the Communist Party and the CIO Political Action Committee coincide in every detail."

This also is the first instance in which a man positively identified as a high-

(Continued on page 58)

LITTLE GRAINS OF SAND

*"Little drops of water, little grains of sand,
Make the mighty ocean, and the pleasant land."*

Bowing to the decision of the Supreme Court John L. Lewis did not call his faithful miners out on April 1st but that action should not lessen interest in the national danger threatened by this flamboyant actor with his love for exaggeration and half-truths. For example, few people know that the "brutal 54 hour work week" to which Mr. Lewis loves to refer is in reality a basic work week of 35 hours at \$1.18½ an hour with time and a half pay for the other 19 hours bringing total week's pay to more than \$75.00. Lewis wants this same total pay for 40 hours of work which would raise the hourly rate of pay more than 49% to \$1.77 per hour.

No nation can be prosperous without a constantly increasing supply of investment capital working in productive enterprises,—working at creating more jobs, making them more efficient and therefore deserving of higher pay. When we consider the fact that there is an investment of approximately \$25,000 per employee in railroad plant and equipment we can understand the real reason why an American railroad worker is paid wages 100 times those paid to a Chinese coolie who performs his transportation service without the aid of any equipment.

According to a survey of 475 cities in 46 states recently made and announced by the National Association of Real Estate Boards, local presidents reported in 80% of those cities that the primary factors holding up construction of rental housing are rent control and other government controls which combine to prevent an adequate return on investment. According to the Bureau of Labor Statistics, rents are still maintained at levels that are actually lower than rents that prevailed in the deep depression year of 1932.

In the light of the present political and economic conditions in Great Britain, long the victim of a heavy graduated income tax on individuals, it is interesting to read the following statement made by Mr. Gladstone in the House of Commons in 1876: "Of all the taxes on the statute book, the income tax is the only tax through which it is possible that socialism or communism, or anything like them, can in the nature of things find an entrance into our system. It cannot be done by indirect taxation—I do not believe it unjust that the rich man should pay

more liberally than the man of lower position; but the unlimited adoption of the doctrine is full of danger to the state, and I ask whether it is wise for us to give the smallest scintilla of countenance to that doctrine.—In the income tax we have a law admitting of being dealt with in a manner which could have given satisfaction to the Commune of Paris."

It has happened in Britain. It is happening here. Taxation is consuming capitalism. It is nationalizing the income of industry which is a treacherous way of nationalizing industry itself.

Addressing the Chicago World Trade Conference recently, John Abbink, chairman of the National Foreign Trade Council stated that he had a "growing conviction" that it was time for the United States to consider the "free coinage and circulation of gold." According to Mr. Abbink "every trading nation in the world, with the important exception of

Russia, wants its currency to have a high, stable value in international markets as a means of stimulating its foreign trade.—A move so dramatic as the re-establishment of gold would confound and discredit the international apostles of Communism overnight. It would divert world thinking from an economic system based on barter—which Russia wants—to a system based on values."

Recent NLRB decisions demonstrate one of industry's chief complaints against the Wagner Act—the almost limitless discretionary powers which it vests in the board.

The new about face of the board in its conservative rulings should surprise no one. There are precedents for it. When Congress was considering proposals to amend the Wagner Act in 1939 the board changed its rules to permit employers to petition under certain limited circumstances. In 1943, when Congress was considering the possibility of removing Wagner Act protection from foremen unions, the board held that such unions were not appropriate for collective bargaining under the act. In 1944, with political pressure removed, it again reversed itself on the foremen union problem.

In the search for better products, better manufacturing processes and a strong position in national and international markets, American business is spending more money for industrial research than in the years immediately preceding the war, accord-

The dangerous spiral of wages chasing prices up and then prices leading wages up must be brought to an end quickly if the United States is to be saved from the crackpot economists and politicians who would like to be the rebuilders of our country. Wild talking about which comes first, the chicken or the egg, wages or prices, must cease. Action must take the place of talk, action that will result in increased production at lower prices.

A majority of the companies surveyed are spending a larger proportion of the sales dollar on industrial research and development today, notwithstanding the much higher level of sales, than in the immediate prewar years. Slightly less than a quarter of the reporting companies, it was found, depend exclusively on their own research facilities and laboratories. The bulk of the remaining companies are about evenly divided in their use of university facilities and commercial or independent laboratories to supplement the work done in their own laboratories.

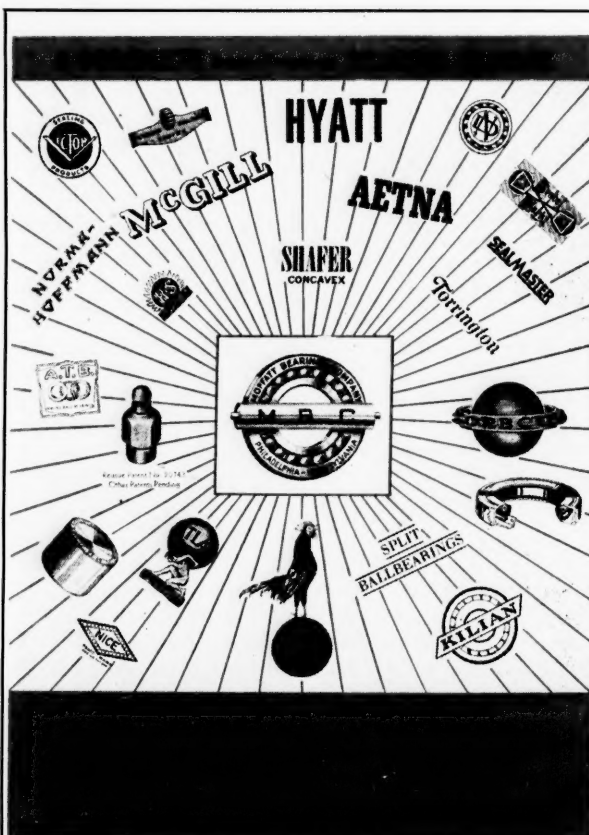
Economy-minded Senator Homer Ferguson (R., Mich) has come up with a new argument in favor of a reduced Federal budget. It costs the American people more today to be governed, he argues, than it does for them to eat.

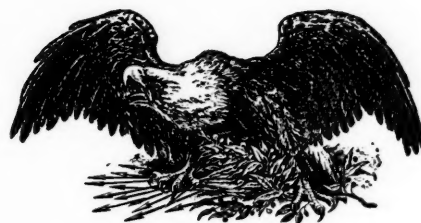
The crusading urge of a majority of the members of the Supreme Court to remake America according to their whim of the moment is again illustrated when by a 5 to 4 decision the court reversed a criminal conviction on the grounds that there were no women on the grand jury that indicted or on the trial jury that convicted. There is not a syllable in any known act of Congress stating that women must be on federal juries so what the Supreme Court, in effect has done is to write what should have been an act of Congress.

The closed shop which denies a non-union man the right to work at his trade, is the basic abuse from which all other labor abuses stem. By comparison, all other labor problems are minor and subsidiary to it. Cecil B. DeMille, who experienced closed shop injustices at first hand describes this condition in

these words: "A closed shop union, able to deprive a man of the right to work, is in a sense more powerful than government itself. The government does not claim the power to take away a man's right to work, unless he has been convicted of crime, after fair trial and due process of law. When the government puts a man in prison, it assumes the responsibility for keeping him alive, at least, with food and medical care—as well as shelter! A closed shop union takes no such responsibility for a member who has incurred its displeasure. As far as the union is concerned, he is left with the right to starve."

Forty-six members of the Economists' National Committee on Monetary Policy have urged Congress not to pass that portion of H.R. 2233 which authorizes the Federal Reserve banks to purchase government securities directly from the United States Treasury in an amount "held at any one time" up to \$5,000,000,000. They make the point that the flotation of government securities should be tested in the market place unless some emergency arises which is so great that the government cannot wait for popular subscription and must resort to direct monetization of the Federal debt as an unfortunate feature of the emergency. The requirement that the government, in times of peace, go to the people in the open money markets for its borrowings is sound for the reason that the people are provided with one means of exercising some direct control over the public purse.





"What Enriches the South Enriches the Nation"

ALL THAT GLITTERS

Why, in this country, is change, mere change for change's sake, regarded as progress? Is it because we as a people are restless and gullible, lacking in respect for the lessons of history and the precepts of religion?

Why is it fashionable to be known as a liberal and somehow rather disgraceful to be called a conservative? Is it because we confuse open-mindedness with empty-headedness and adherence to right principles with mulish stubbornness?

Allah be praised, most of us do not consider indiscriminate change as the same thing as progress in our social relationships. We are not prone to cast off old friends for new and untried acquaintances, and, in spite of Hollywood habits, most of us still frown upon divorce and remarriage. Does this mean that we are unprogressive or does it mean that we have brains enough to recognize the true value of what we already possess?

But contrast this conservative social attitude which we hold as individuals, with our so-called liberal attitude with regard to business and political life (usually as it affects the lives of others, not our own) and we discover that we are strangely inconsistent.

It is true that, except for avowed communists and their selfish or deluded fellow-travelers, no one advocates the destruction of the American system of freely competitive enterprise. But in spite of this, almost everyone is an advocate of some supposedly new economic theory or urges the passage of some untried law, without any thought of the consequences if the theory or the law is proved a failure. Sincere

believers in temperance conceived the 18th amendment to be a morally progressive law. We now know that it bred crime and vice and lowered the moral tone of the majority of our citizens by leading them to believe that it was smart to cheat.

None of these advocates of some one or few economic or political changes want to destroy our form of government nor the institutions that are nourished under it, but they completely fail to see that the results of the changes they propose, if when adopted and compounded, may logically and ultimately lead to exactly that end. In times of supposed crisis we have all heard men seriously propose that the government take over the railroads, coal mines or meat packing industry. Would these same men want the government to confiscate their businesses? We know of a fine newspaper in a Southern city, one which professes to be a staunch defender of the free enterprise system, which has aggressively advocated that the city which it serves take over its public utility company by right of eminent domain. No doubt this same newspaper would strenuously oppose government censorship, let alone ownership of the press.

Change is not necessarily progress. It may spell retrogression and subversive destruction. Liberalism may be misused as a cloak to hide mental nakedness. Is it not true that a real liberal is one who has not lived long enough and thought straight enough to have evolved the fixed principles which will eventually make him a conservative. In other words, is not a liberal a tolerant conservative who hasn't grown up?

HATS OFF TO INDIANA

For a long time it was our proud boast that our government was an "indissoluble union of indestructible states." Now the states are being destroyed. Power over our lives is being transferred to Washington.

A notable effort has been made by the State of Indiana to reverse this trend—to bring government back home. In Hoosier homespun, the legislature of Indiana, by the vote of both its Senate and House, has adopted the following resolution. It has been sent to the governor of every state, and to all members of Congress. It is worth reading.

"Indiana needs no guardian and intends to have none. We Hoosiers—like the people of our sister states—were fooled for quite a spell with the magician's trick that a dollar taxed out of our pockets and sent to Washington, will be bigger when it comes back to us. We have taken a good look at said dollar. We find that it lost weight in its journey to Washington and back. The political brokerage of the bureaucrats has been deducted. We have decided that there is no such thing as "federal" aid. We know that there is no wealth to tax that is not already within the boundaries of the 48 states.

"So we propose henceforward to tax ourselves and take care of ourselves. We are fed up with subsidies, dols and paternalism. We are no one's stepchild. We have grown up. We serve notice that we will resist Washington, D. C., adopting us.

"Be it resolved by The House of Representatives of The General Assembly of the State of Indiana, The Senate concurring: That we respectfully petition and urge Indiana's Congressmen and Senators to vote to fetch our county court house and city halls back from Washington. We want government to come home. Resolved, further, that we call upon the legislatures of our sister states and on good citizens everywhere who believe in the basic principles of Lincoln and Jefferson to join with us, and we with them to restore the American Republic and our 48 states to the foundations built by our fathers."

This resolution goes to the very roots of American freedom. The very heart of constitutional liberty is the diffusion, rather than the concentration of power.

President Roosevelt, in a moment of, perhaps, prophetic vision, once said that we had built up new instruments of public power which, in other hands, "would provide shackles for the liberties of the people." These new instruments of public power are concentrated in Washington.

And prior to that Governor Roosevelt said, in 1930: "We are safe from the danger of any such departure from the principles on which this country was founded just so long as the individual home rule of the States is scrupulously preserved and fought for whenever it seems in danger."

The federal government should not be permitted to tax away more of the earnings of the people than it needs for federal operations and then dribble back a part of the excess to the states. This practice can lead to but one end, federal control over the functions of local and state governments, and will make a mockery of the words United States.

PROFIT ONLY STARTS ON THE HOOF

Long past are the days when the South was a one crop region with possibilities for only one industry based on it. Diversification has accomplished much for the South's economy. Nevertheless there is still much that can be done in this same direction to bring about further improvement. In some of the possibilities apparent, agriculture and manufacturing are very closely related.

An example of such interrelation is outstanding in meat packing possibilities. Meat packers need beef in both quantity and quality and they should have their sources of supply close at hand.

In recent years there has been a preceptible shifting of both cattle raising and beef packing toward the South. That transition could be greatly accelerated if agricultural and manufacturing capital would consider carefully the advantages which the South holds out in each activity, and how each should complement the other to fructify these advantages.

Notwithstanding the South's available pasturage, abundant in area and excellent in quality, some Southern states have neglected to utilize this advantage to anything like the fullest degree. It is not enough to say that the South should have beef cattle herds in number proportionate to its area. It has that number now. Considering its natural advantages, the South should be away out in front of other regions in both number and quality of cattle raised.

In recent years distinct progress has been made in building up herd population. In 1946 there were 27,733,000 head of cattle on Southern farms. Of these 8,985,000 were dairy stock. The remaining 18,748,000 were candidates for packing house slaughter and places on southern dinner tables. This number represented 36 per cent of the beef cattle in the nation. The showing as to numbers is improving.

However, at the same time that numbers were being built up, and a great deal was being done to improve the quality of Southern cattle, there is still much that can be done in this direction. This is shown by the fact that the value of those 18 million southern bovines was only \$59 each, whereas the average for the country was \$77 apiece.

Farmers already engaged in cattle raising in the South, and those contemplating this enterprise, should weigh carefully the real profit making opportunities that present themselves in breed and feed improvement projects. Investment in such projects would unquestionably pay handsomely.

Even as the situation is, meat packing in the South, viewed from any reasonable angle, should attract investment capital. The region annually imports many tons of slaughtered beef from other sections. Much of these imports consists of the South's own cattle shipped elsewhere for slaughtering and finishing.

Not only could the regular profits involved in raising, slaughtering and processing be retained in the South through a more adequate Southern meat-packing industry, but in addition profit-making savings could be realized from elimination of the two-way freight cost involved in wasteful transportation.

Textile Manufacture— Second Southern Industry

by
Caldwell R. Walker

Feature Editor, MANUFACTURERS RECORD

This is the second of a series of staff articles to appear in the MANUFACTURERS RECORD to depict in detail the growth of the major manufacturing enterprises in the South.

THE textile industry gave evidence of the firm basis upon which it rests by maintaining through 1945 the second-place rank it held in Southern manufacturing enterprise.

Equally as important, this industry can serve as a guiding example for other Southern manufactures that are based upon advantages equivalent to those enjoyed by textiles.

Value of textile plant output in the South increased from \$1,431,000,000 in 1939 to \$2,343,000,000 in 1945. This value of production was exceeded in both periods by the food industry only, with its \$2,096,000,000 in 1939, and \$3,813,000,000 in 1945.

Textiles however, were closely pressed by the swiftly rising chemical industry, which in 1945 had production value totaling \$2,042,000,000. Output of petroleum and coal industries had a total of \$2,013,000,000. The latter two turned out products in 1939 valued at \$967,000,000 and \$1,081,000,000, respectively.

Both percentagewise and in dollar value, the gain for textiles was less than for any of its closest rivals. This result is understandable when textiles' more mature development is taken into consideration.

For many years cotton textiles constituted the South's predominant industry. Its rise began early in the present century, and by the quarter century the South had wrested the lead theretofore held by New England. From the early nineteen hundreds, the rate of establishment

of new mills in the South and the migration of northern mills southward, was phenomenal. In 1900 nineteen and a half million cotton spindles were active in the United States. Of those only four and a half million were in the South. Now there are twenty-three million active in the country as a whole, with eighteen million in the South. While the South was gaining thirteen and a half million spindles, the rest of the country was losing ten million of those it had.

There were a number of natural reasons for this growth. By no means the least important of these was the aptitude exhibited by Southern workmen and workwomen for performing the operations required to produce fine fabrics. It is a misconception to believe that textile manufacturing does not require specialized skill. Extreme deftness and unusual attentiveness are prime requirements in this industry which utilizes so many different kinds of machines, and turns out such a wide variety of products.

The Southern young men and women who came in to the textile centers from their mountain homes or from Southern farms were inherently endowed for work demanding conscientious effort. They constituted the least mixed race to be found in this or any other country. Almost to a person they were pure American Anglo-Saxon stock untainted by ideologies that hold that better living can be had through ever-slackening attention to responsibility and duty.

For these people the cotton factories of the South were a blessing, even as they themselves furnished

the talent needed by the factories. The long record of cordial relations between cotton mill operators and cotton mill operatives bears further witness to the soundness of this Southern industry.

It should not be assumed that growth of the textile industry in the South during the past war years was not outstanding, merely because it trailed three other industries in rate of growth. Cotton manufacture, it must be remembered, is no longer the monopoly it once was among textiles. Rayon, nylon and other synthetic fibers have entered the picture to augment the possibilities supplied by cotton.

From 1940 through 1944, no fewer than 165 new textile establishments were set up in the South, involving an aggregate capital investment of \$52,173,000. Of that number, 21 factories designed to utilize rayon accounted for \$28,876,000 of the investment. At least six nylon factories were added to the textile plant at a total investment cost of \$751,000. The amount of money put into these latter tell only part of the story. Establishments costing nearly \$50 million were set up to turn out the synthetic fibers themselves. These plants are classified as chemical operations inasmuch as the process for formation of their product is chemical; but without the textile factories they would be without purpose.

(Continued on page 62)

Southern Textile Plants Added 1940-1945

Product	Number	Investment
Cotton	129	\$21,500,000
Rayon	21	28,876,000
Nylon	3	751,000
Asbestos	1	533,000
Hemp	1	112,000
Wool	2	64,000
Carding and Drying Plants	8	337,000
Total	165	\$52,173,000

Textile Plants Added 1940-45 By States

State	Number	Investment
Alabama	8	\$ 6,073,000
Arkansas	3	135,000
Georgia	29	8,448,000
Kentucky	1	112,000
Maryland	1	240,000
Mississippi	2	56,000
North Carolina	40	11,048,000
South Carolina	33	12,408,000
Tennessee	8	4,644,000
Texas	5	274,000
Virginia	12	5,816,000
West Virginia	3	2,919,000
Total	165	52,173,000



Above—New B. F. Goodrich tire and tube plant at Tuscaloosa, Ala.

\$124,359,000 Industrial Contract Total Is Over One-Third of Quarter's Figure

by
Samuel A. Lauver
Managing Editor,
MANUFACTURERS RECORD

INDUSTRIAL construction has proved the bulwark of southern construction activity this year. The \$124,359,000 valuation for such work in the first quarter of 1947 not only almost equals the total for the comparable period of 1946 but comprises thirty-six per cent of the \$341,052,000 total for construction awards below the Mason and Dixon line.

Tabulation of construction awards in the sixteen southern states reveals that twenty-six per cent of the three-month figure, according to reports to the *Daily Construction Bulletin* of the MANUFACTURERS RECORD, represented the \$90,377,000 total for March.

Both the first quarter and March totals show decreases from their counterparts of last year, the former being a 10 per cent drop in value and the latter, a thirty-nine per cent decline from the \$148,911,000 for the third month of 1946.

Rising costs of both labor and materials indicate a diminished amount of actual construction activity, although opinions from some sources predict an early end to the price confusion caused by the removal of government restrictions with a gradual settlement toward stability.

No such reductions, however, are seen in labor costs, which still show an upward trend, despite the widely publicized truce announced by President Truman several weeks ago. Proof of this is the fact that one manufacturer has abandoned a multi-million dollar industrial construction project due to union pressure.

Private building is the second strongest factor in the southern construction picture, with residential work occupying the major position in that field. The total for the first three months of 1947 is \$60,372,000 for private building and \$36,010,

000, or fifty-nine per cent represented by private residential contracts.

Estimates on the number of homes to be placed under construction or completed this year vary from \$25,000 to 1,000,000 for the country, although the present housing expediter this month was unwilling to set a goal, observing that "representatives of the industry have used the figure of a million. I hope we get at least what they say and as many more as materials and labor will permit."

Mr. Creedon said that some materials, especially gypsum board and lath, cast iron soil pipe, and millwork are still insufficient to meet demands. He reported imports of millwork, specifically mentioning doors from Mexico, Finland and Sweden, as well as certification of a prefabricated house of Finnish design.

Shortages of essential building materials are disappearing so rapidly that 1947 may become a record home building year, the Producers Council predicts, all building materials being produced at rates equalling or exceeding past production records. Cast iron soil pipe and hardwood flooring are noted as the exceptions, says that national organization of building material manufacturers.

The trend in prices is seen as depending largely on wage rates and on the productivity of construction, with the possibility of home and other building costs dropping as much as 20 per cent below 1946 peaks. Counting 200,000 or more

units under construction at the beginning of 1947, the Council states this year may see about one million permanent-type housing units as compared with 650,000 in 1946.

A need for new commercial building is seen by the national real estate association, as a result of its semi-annual survey of the real estate market, with rents to continue to rise in a majority of the cities surveyed, the outlook for higher rents being in proportion to the size of the cities.

Southern commercial construction, embracing stores, restaurants, garages and filling stations, totals \$11,890,000 in value for the first quarter of 1947, as compared with the \$30,344,000 in the first three months of 1946. The current March figure is \$4,362,000, that for the preceding month, \$3,473,000. For March, 1946, the figure was \$10,057,000.

Engineering construction is the third largest factor in the 1947 total, with its \$52,821,000 figure made up of \$36,655,000 for dams, drainage, earthwork and airports, \$12,941,000 for sewers and water works and \$3,225,000 for government electric projects.

Highways in the contract stage were a fourth strong factor in the southern construction picture during the elapsed months of 1947, totaling \$56,834,000, or almost seventeen per cent of the \$341,052,000 three-month southern construction total. Texas awards so far this year total above \$19,000,000, the highest for any southern state.

Public building is now ahead of the valuation placed on such work during the first three months of 1946 when the figure was \$42,948,000. The current first-quarter total is \$46,666,000, of which \$19,573,000 is for schools, which in the first

three months of 1946 accounted for \$11,403,000.

The current March figure for southern construction—\$90,377,000—embraces \$21,909,000 for highways, streets and bridges; \$19,811,000 for private building; \$17,289,000 for industrial projects; \$16,119,000 for public building and \$15,249,000 for heavy engineering type of construction.

Several states contributed heavily to the \$21,909,000 highway total. These were Texas with \$6,834,000, Missouri with \$3,153,000, South Carolina with \$2,754,000 and Mississippi with \$2,709,000. Other totals above the million dollar mark were Alabama's \$1,920,000 and North Carolina's \$1,408,000.

The \$19,811,000 private building total for the third month approximates the \$19,979,000 for the preceding month and shows an advance over the \$19,206,000 for March of last year. The current figure is made up of \$11,277,000 for residential work, \$4,362,000 for commercial projects, \$2,978,000 for office type structures and \$1,104,000 for assembly buildings such as churches and theatres.

Public building in March was up when compared with both the preceding month and March, 1946. The current figure was \$16,119,000; that for February, \$14,476,000 and for March of 1946, the total was \$12,594,000. School projects accounted for \$8,582,000 of the current total.

Engineering construction is stronger when compared with February and lower when compared with the third month of 1946. Value of projects in the contract stage in the current March was \$15,249,000. The figure for February was \$12,858,000 and for March of last year, \$23,229,000. Dams, drainage and earth work represented \$8,041,000 of the current total; sewers and water works, \$4,526,000.

Industrial construction placed under contract during March was valued at \$17,289,000, as contrasted with the \$41,041,000 for February and the \$58,551,000 for March 1946. Value of proposed projects in this field approximated the contract figure a year ago. Despite the lower contract valuation, a number of projects were in the active stage. These included:

Refinery expansion, Houston, Texas, \$9,000,000, Pure Oil Co.

Process building, Freeport, Texas, \$5,000,000, Dow Chemical Co.

Electric lamp plant, Little Rock, Ark., \$4,000,000, Westinghouse Electric Corp.

Pipeline extensions, Texas, \$3,531,000, Magnolia Pipeline Co.

Chemical plant, Winnie, Texas, \$3,000,000, McCarthy Oil & Gas Corp.

Brewery, Baltimore, Md., \$1,500,000, Gunther Brewing Co.

Gas system, LaGrange, Ga., \$1,500,000, City of LaGrange.

Expansion, Tampa, Fla., \$1,250,000, Florida Portland Cement division of General Portland Cement Co.

Woolen plant, Middleway, W. Va., \$1,000,000, Berkeley Woolen Co.

Radio and electrical plant, Paducah, Ky., \$1,000,000, Magnavox Co.

Newspaper plant, Tulsa, Okla., \$1,000,000, Newspaper Printing Corp.

(Continued on page 56)

South's Construction by Types

	March, 1947	Contracts Awarded First Three Months 1947	Contracts Awarded First Three Months 1946
Contracts Awarded	Contracts to be Awarded		
PRIVATE BUILDING			
Assembly (Churches, Theatres, Auditoriums, Fraternal)	\$1,194,000	\$6,190,000	\$3,922,000
Commercial (Stores, Restaurants, Filling Stations, Garages)	4,362,000	2,956,000	11,890,000
Residential (Apartments, Hotels, Dwellings)	11,277,000	20,094,000	36,010,000
Office	2,978,000	636,000	9,450,000
	\$19,811,000	\$29,876,000	\$60,372,000
INDUSTRIAL	\$17,289,000	\$58,418,000	\$124,359,000
PUBLIC BUILDING			
City, County, State, Federal and Hospitals	\$7,537,000	\$43,487,000	\$27,093,000
Housing	8,582,000	53,351,000	19,573,000
Schools			100,000
	\$16,119,000	\$96,838,000	\$46,666,000
ENGINEERING			
Dams, Drainage, Earthwork, Airports	\$8,041,000	\$15,090,000	\$36,655,000
Federal, County Municipal Electric	2,682,000	11,356,000	3,225,000
Sewers and Waterworks	4,526,000	15,999,000	12,941,000
	\$15,249,000	\$42,445,000	\$52,821,000
ROADS, STREETS & BRIDGES	\$21,909,000	\$21,588,000	\$56,834,000
TOTAL	\$90,377,000	\$249,165,000	\$341,052,000

South's Construction by States

	March, 1947	Contracts Awarded First Three Months 1947	Contracts Awarded First Three Months 1946
Contracts Awarded	Contracts to be Awarded		
Alabama	\$3,566,000	\$6,354,000	\$13,276,000
Arkansas	3,343,000	3,529,000	4,843,000
Dist. of Col.	1,638,000	2,050,000	6,419,000
Florida	11,106,000	17,582,000	28,554,000
Georgia	7,999,000	13,543,000	63,916,000
Kentucky	826,000	8,673,000	918,000
Louisiana	4,610,000	14,241,000	17,677,000
Maryland	6,192,000	18,797,000	21,730,000
Mississippi	4,142,000	11,513,000	23,941,000
Missouri	3,327,000	19,459,000	6,092,000
N. Carolina	2,359,000	12,895,000	9,980,000
Oklahoma	2,119,000	3,003,000	6,516,000
S. Carolina	3,178,000	9,244,000	12,209,000
Tennessee	5,395,000	29,377,000	10,165,000
Texas	25,294,000	66,990,000	98,439,000
Virginia	4,865,000	9,815,000	10,824,000
W. Virginia	368,000	2,100,000	5,553,000
TOTAL	\$90,377,000	\$249,165,000	\$341,052,000

Below—The 56,000-horsepower Riviera Beach generating plant, the second major project to be finished by the Florida Power and Light Company's \$27,500,000 expansion program.





Above—Bristles in the brushes at the left were made from casein such as held in the other hand.

BRUSHES FROM MILK



Casein is shown above being poured into the hopper of the extrusion unit, from which the bristles emerge in the lower view. The bristle strands are being combed in the circle.



by

Louis B. Howard

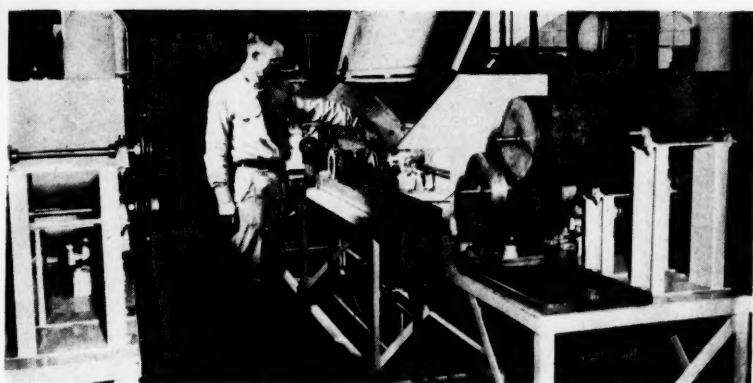
Chief, Bureau of Agricultural and
Industrial Chemistry
U. S. Department of Agriculture

PAIN'T brushes are being made on pilot-plant scale from casein bristle at the Rubberset Company's new plant at Salisbury, Maryland. The development is the outgrowth of fundamental research at the Bureau of Agricultural and Industrial Chemistry's Eastern Regional Laboratory in Philadelphia. The experimental production of this new brush which started during the latter part of November marks another milestone in the progress that is being made in the utilization of agricultural commodities in the industrial field.

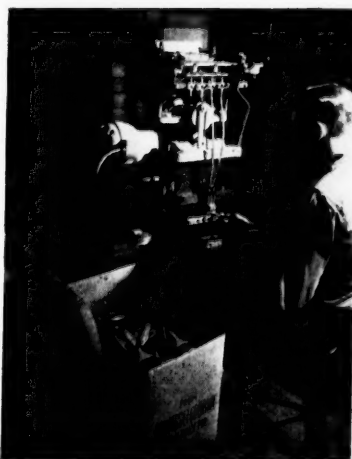
Rubberset has been making brushes for nearly 75 years. It's one of the oldest companies in the business, and as a result of its long experience in this field is in a good position to evaluate promising new brush materials. It became interested in the new synthetic bristle after it had been produced experimentally in the Philadelphia Laboratory and is now carrying on pilot-plant investigations on its own in the Salisbury plant.

The new casein bristle is round in cross section and has a black color comparable to that of hog bristle. Like other artificial fibers, it can be produced in any desired length and in a range of diameters. Of the many possible uses one of the most promising outlets at present seems to be in the production of paint brushes. It is particularly adapted to this since the fiber is resistant to oil and organic solvents.

In the Salisbury plant casein bristle is made by forcing a mixture of casein powder and water through a suitable die or spinnerette. The filament-like threads are then subjected to various mechanical and chemical finishing treatments. One of the most important of these is the quinone bath which hardens the bristle as it passes slowly through the dark colored liquid which is maintained at a uniform temperature. Drying is done as the continuous fibers pass slowly through a mechanical dryer. The fibers are wound and rewound on many different kinds of spools



Above—The extrusion unit at the Salisbury, Md. plant of Rubberset Company.



and wheels as they pass through the hardening, stretching and drying process. The fibers are collected together as they leave the drying cabinet and wound on a large wheel into rope-like bundles which are cut into lengths of about 10 feet to facilitate handling. These in turn are cut into shorter lengths suitable for the production of different kinds of brushes, mechanically mixed, and sent to the assembly line where girls put the bristle into the metal ferrules. In the next operation the open end of the ferrule is partially filled with resin, and the unit passed through a heating chamber where the setting is cured. The unit then passes through a clipping machine which trims off long or irregular bristles, and shapes the brush to the desired form. The final step is the addition of the previously prepared handle. This is done by two machines, one that forces the

handle into the open end of the ferrule and another that nails or staples it to the metal.

The Salisbury plant is laid out and designed for commercial production. Its assembly line equipment is new and modern and similar to that in other Rubberset plants in this country and Canada. The present period of experimental production will continue until Rubberset is satisfied that all manufacturing kinks have been ironed out. The brushes made at the present time are being subjected to all sorts of tests, and no brushes will be sold until the company feels that the new product is ready for the market.

The new bristle is truly the result of research. Dr. Thomas L. McMeekin and associates in the Philadelphia Laboratory spent four years developing this bristle, and improving methods of production. They developed a process for continuous production which is cheaper and faster than the batch method. Continuous production also results in a more uniform product which is particularly important in assembly line production.

Casein from waste skim milk is the main constituent used in making the new bristle at the present time, but
(Continued on page 58)

Below—Fibre leaving dryer.



Views at the right show various operations at the Rubberset plant. At the top the cemented bristles are being placed in the hardening chamber. Next is the clipping machine. In the third picture, the bristles are weighed for each brush, as well as combed. Stapling the handle to the brush is shown in the bottom illustration.

The South's Marketing Problems

by

E. O. Dill

Chief, Marketing Department
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MARKETING problems, as such, are of relatively recent origin in the South. As long as the principal economic activity of the area consisted of production of raw materials sold in eastern and northern markets, sales techniques and procedures were determined in those same regions.

The gain of the South in economic position has wrought a change. The South has emerged from the recent war in a position to give further impetus to continued industrial expansion.

In all of the discussions and activity surrounding this present and proposed development and expansion of the South, but little has been said or heard of the marketing problems involved. Most of the activity instead has been centered on problems of financing, personnel and material resources.

While everyone recognizes that marketing is at least half of the business structure, the other half being production, not even southern business administrators seem to realize how far marketing efficiency has been permitted to lag behind production efficiency in the area, or in how many instances this phase of their problem has been shifted to sales specialists in other sections.

It is true that in many instances Southern manufacturers have reached the point where marketing problems are discussed, yet in reality very little is being done about them. This same frame of mind is found in the prospectuses prepared by Southern state and civic organizations for the purpose of attracting new enterprise to the state or city. Much attention is commonly given in these prospectuses to discussions of favorable living conditions, favorable climatic environment, excellent transportation facilities, ample natural resources, trained labor supply, and similar factors.

In contrast, marketing opportunities are generally disposed of by such statements as "over 50 per cent of America's population is located within 750 miles," or "the area is excellently served by three railroads

carrying goods to all available markets."

This lack of anything beyond lip service to the value of a scientific approach to the solution of marketing problems is not entirely peculiar to the Southern manufacturer. As late as 1938, Frank B. Coutant, writing in the *Journal of Marketing*, estimated that the average American manufacturer was spending ten times the amount annually for production research that he was spending for distribution research. According to the same author examples were common of companies spending \$100,000 or more a year on production research, and \$2,000 or less on their distribution problems.

While exactly similar estimates are not available for the South alone, it seems reasonable to suppose that the discrepancy is probably much greater.

If the South is to reach its deserved place in the economic life of the nation, its business leaders must become alive to the importance of this discrepancy. More attention must be given to marketing problems. Whereas almost exclusive attention has hitherto been given to making two blades of grass grow where only one grew before, attention must now be directed to the problem of selling the second blade of grass. The philosophy of employing two men in industry where only one was employed before must be supplemented with attention to the necessity of disposing profitably of the second man's product.

Neglect of these marketing problems could easily slacken industrial expansion. Future growth is expected to come through Southern-sponsored plant, rather than from branches of industry headquartered in other sections. Reliance on northern and eastern sales promotion will not solve the South's future marketing problems. These require a new approach, involving important considerations:

First, expansion coming from new plants, or additions to old plants proposing to develop entirely new products, must determine whether the new product will sell, either here in the South, or elsewhere. Product research is essential. This type of research, as used by students of marketing, does not include scientific laboratory research, but does include studies of design, color, texture, taste and similar criteria, viewed from the consumer's point of view. In addition, it includes pricing studies, sales features, selling and advertising techniques, and similar studies.

The scientist and engineer may answer the question: "Can it be made?" The market analyst alone is equipped to answer the equally important question: "Can it be sold?"

Another type of expansion will come from Southern manufacturers breaking into new territory beyond the borders of the South. This proposal, too, involves problems for the marketing analyst—problems in advertising and selling, problems of distribution methods and costs, and others such as consumer acceptances and brand preferences. The marketing counselor should have the answer to the manufacturer's question: "Can I successfully break into territory in which strong competition is already entrenched; and if so, how shall I go about it?"

A third industrial development possibility will come from the manufacturer who would improve his merchandising or product or both, to perhaps double his prewar volume in his regular market. Expanded consumer incomes in the South give sound foundation for this type of expansion. He will need to know if there is a direct relationship between consumer income and product sales. He will require guidance in building preference for his own special brand as against distant competition temporarily disadvantaged by war and postwar shortages of supplies and shipping facilities. Answers to these questions are within the province of the market analyst. Upon the answers depends the suc-

(Continued on page 64)

Atomic Power Pile Project Progresses Without Energy Commission Confirmation

OVERSHADOWED by the Truman-Congress dispute about its chairman, the Atomic Energy Commission functions without confirmation of either a head or members and work goes quietly ahead on the laboratory for study of atomic energy for industrial use at Oak Ridge, Tenn., one of the three centers of wartime development of nuclear fission for the destructive purposes of war.

Reports say the first pilot plant will be in operation within a year. Official announcements point out that contract for its construction is yet to be let. Preliminary work, however, is going forward as indicated by the fact that on March 21 the Atomic Energy Commission opened bids for an alteration job and that on April 21 other proposals will be received for roadway improvements.

The first 100,000,000 electron volt atom smasher is being shipped from the General Electric plant at Schenectady, N. Y., which is also building a similar machine for the University of Chicago where it will be used for nuclear research.

Shipment of the final components of the betatron to Oak Ridge will be completed by mid-summer. A special room or building will be erected



The Bikini bomb explosion.

to house the unit as protection against the powerful X-ray produced by its operation. The betatron will weigh 160 tons and will be nine feet high, six feet wide and 15 feet long.

Dr. G. W. Dunlap, who supervised the engineering of the betatron, says the machine will produce X-rays many times the intensity of the strongest conventional units. Highest intensity so far is that of the G. E. betatron at Schenectady which is 100,000,000 electron volts.

The betatron may be compared with an ordinary transformer in which a hollow, doughnut-shaped

vacuum tube replaces a metallic secondary conductor, according to Dr. Dunlap. Electrons are shot into the tube and are caused by the magnetic field to circle around within the tube, acquiring increased energy with each revolution. At a predetermined time, the beam of electrons is caused to bombard a tungsten target to produce the X-rays of 100,000,000 electron volts, the electrons having traveled 250,000 revolutions, or about 775 miles. The doughnut will have an over-all diameter of 74 inches.

No description of the exterior of the proposed plant has been issued, but a diagrammatic sketch shows the facilities will include such units as a boiler, steam turbine, generator, and atomic furnace, the hot gases from which will be used to heat the boiler which in turn will drive the turbine. Uranium rods are pictured in the furnace where the fission will be accomplished.

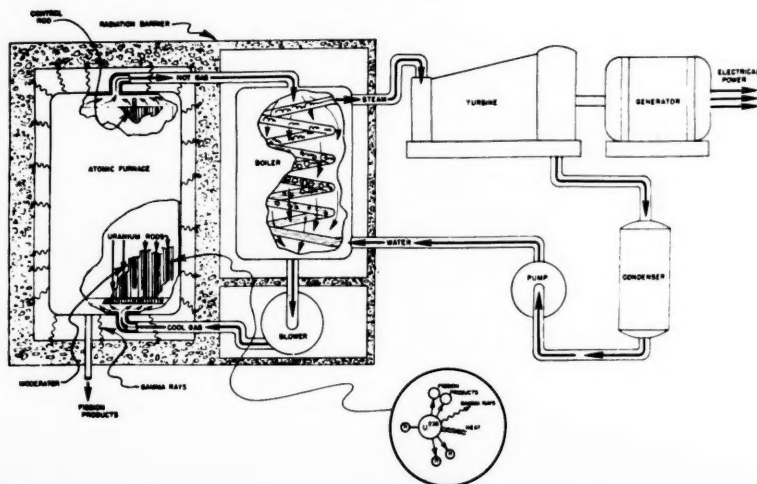
Two prime contracts have been assigned for development. One is with Monsanto Chemical Co., of St. Louis; the other with General Electric Co., operators of the Hanford Engineer Works at Pasco, Wash. A government-owned atomic power laboratory is scheduled to be erected at the electric company's home town, Schenectady, N. Y.

Research and plans for the Oak Ridge plant, where Monsanto operates the Clinton Laboratories, involves such questions as size and shape of the fuel unit, method of transferring heat from the pile to the heat engine or prime mover, the problem of loading and unloading the pile, the problem of automatic control of the pile and its accessory equipment including the steam turbine and generator, and the problem of shielding the whole unit for protection against radiation.

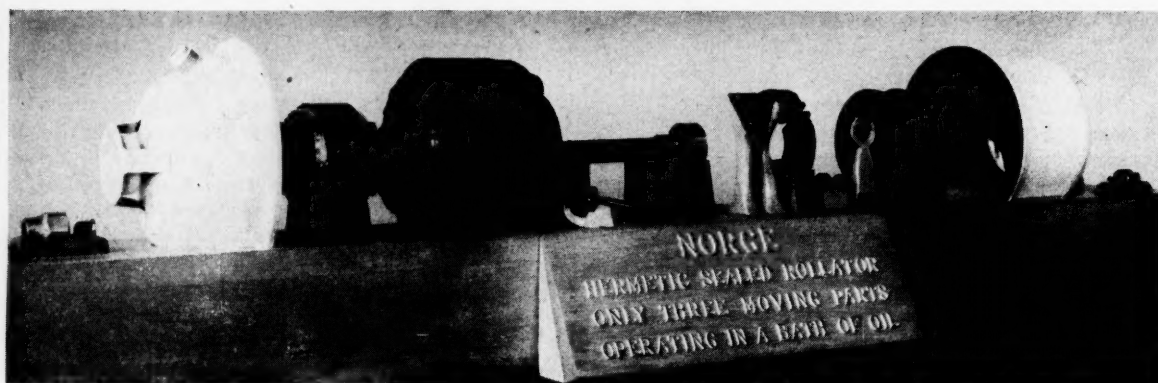
Experiments to solve these problems extend into 1947 and according to Dr. James H. Lum, director of Clinton laboratories, procurement of equipment may delay start of the pilot plant until 1948. Monsanto's

(Continued on page 154)

Below—Diagrammatic sketch indicating the basic features of the proposed atomic power pile at Oak Ridge.



Finished Products Story of the Month



Above—Parts of the Norge hermetic sealed Rollator made at Borg-Warner's Chattanooga plant.

PRECISION MACHINE WORK DONE AT CHATTANOOGA COMPRESSOR PLANT

Precision predominates at the Chattanooga plant of the Borg-Warner Corporation, where the "rollator" compressor is made for the Norge electric refrigerator.

Measurements as minute as $1/10,000$ th of an inch are commonplace; $30/1,000,000$ th of an inch isn't unusual. Such accuracy is merely emphasized by the fact that corrosion from one thumb print may render a part useless for installation in one of the compressor units.

The compressor is unimpressive in appearance. Five major parts go into its assembly. These are the

roller, cylinder, blade, end plate and shaft. The small, polished carbon steel blade is one of the indispensable parts that could be injured by human touch.

"If a man has acid in his system and handles the blade with bare hands," says C. D. Rader, foreman of the precision room at the Norge plant, "he will ruin it. Because the acid will eat into the blade, just a little bit, maybe, but enough to ruin it for our purposes."

The blades are perfectly flat and form a vacuum when pressed together. When properly polished, a

stack of a dozen can be lifted by picking up the top blade just as if they were held together by glue.

These precision parts start as bars. In the rough, they are drilled, milled, tapped and burred. Heat treatment is followed by a tumble blast that blows away the rough particles on the parts.

Then the precision work begins. The semi-finished parts are bored, ground and honed to minute tolerances, thus enabling them to operate for years in the compressor unit without overhaul.

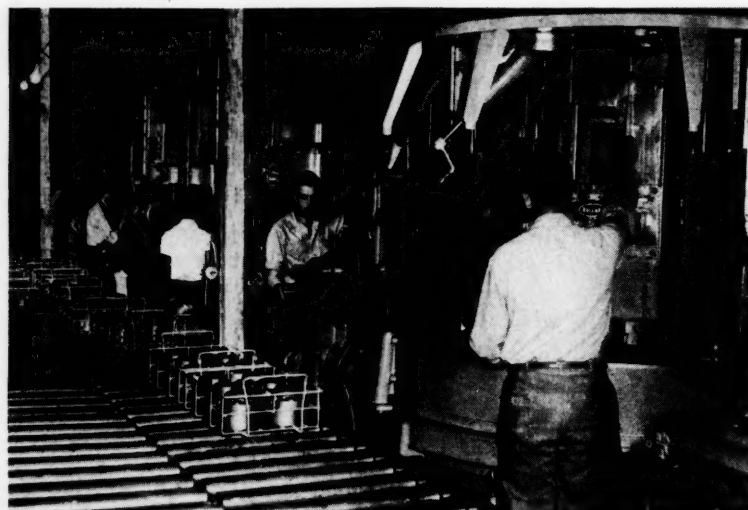
Careful check is kept on every part of the compressor. For instance, the surface of a blade may look as smooth as glass to the naked eye. But a device called the diamond needle may reveal mountains and valleys. When such irregularities are detected, the part is discarded.

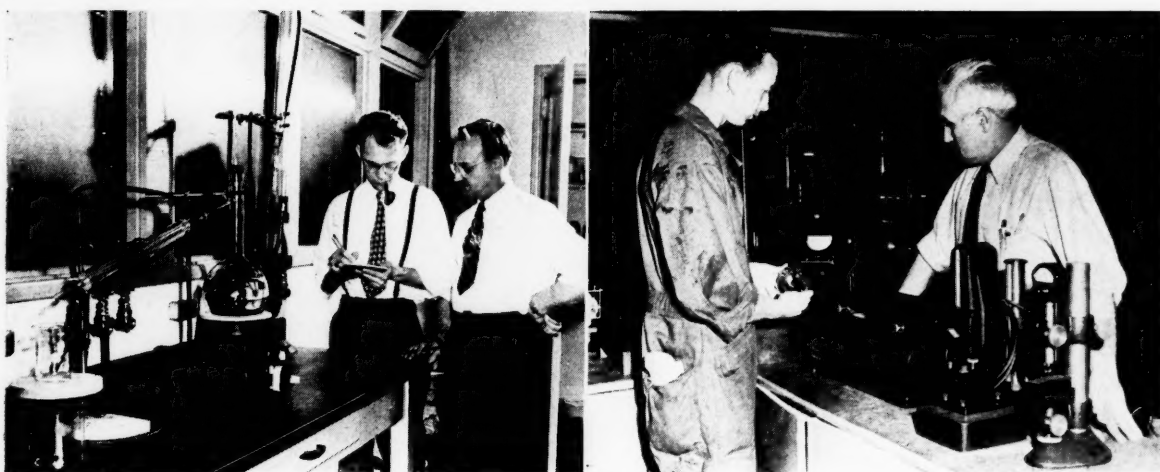
Another machine hones the hole in a cylindrical part. A revolving shaft drops through the hole to remove infinitesimal particles. If the subsequent test shows the hole to be more than $1/10,000$ th of an inch off, the honing is resumed until the proper dimension is attained.

Eleven holes are drilled in the bearing plate and 10 of them are threaded in an operation at the rate of one every 25 seconds. The precision machine that accomplishes this performance was built especially for Norge.

A ten-thousandth of an inch can

Below—Special drilling and tapping machine at the Norge plant performs 28 operations in one cycle and is said to be the only one of its kind in the South.





Above—Left—Spot check on moisture content of compressor unit. Above—Right—C. D. Rader, finishing room foreman, and Don Thomlinson at the master gauge, which is used to calibrate others at the Norge plant to check dimensions down to one-millionth of an inch.

hardly be distinguished by feel. Evidence of this is shown by rubbing the finger over a ground part. The surface difference is unnoticeable. Only by drawing the fingernail over the surface can a slight ridge be detected.

Machines so precise in their operation must be entirely free from vibration. Hence, they are set on individual foundations so that the jar from an overhead crane moving along overhead will not be felt.

Air in the precision room is dry. Moisture would adversely affect the parts. Workers who handle the blades for the compressor must wear gloves to avoid the ruinous effects of the human touch.

Assembled, the compressors are shipped to Michigan and there installed in the refrigerators of the Norge line, which now includes washing machines, gas and electric ranges, home heaters. The Norge label is also on water and beverage and milk coolers, room-conditioners and other refrigeration specialties.

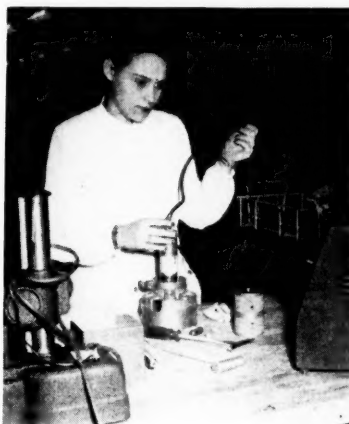
The story of Norge and its "rollator" compressor dates back to 1925, when Howard Blood, then general manager of a Detroit machine company, visited a dingy little St. Louis shop to view an inventor's efforts to build a small compressor employing the "rollator" instead of the piston principle.

Impressed by the possibilities of the device, Mr. Blood decided to acquire it, simplify its design and use it for refrigerator installation. One hundred refrigerators were built in 1926. These contained "rollators" with three moving parts instead of the original eight. A thousand refrigerators were produced in 1927.

Mr. Blood formed the Norge Corporation in 1927, after buying out the predecessor company. He was named president and general manager of the firm and the Detroit Gear division and has retained those posts since that time.

So successful was the Norge refrigerator that in 1933 the company, which had its own porcelain enam-

Below—Precision assembly of the Norge compressor unit.

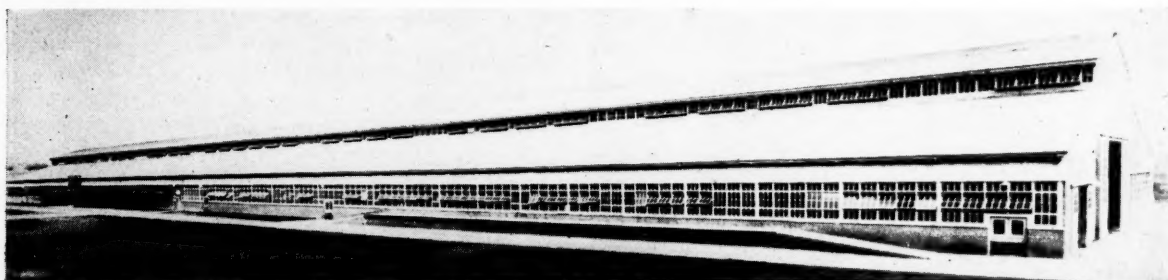


eling facilities, decided to produce all-white porcelain finish washing machines, the first in the industry to make this move.

The next year saw purchase of the 40-year-old Detroit Vapor Stove Co., a leader in the gas range field. These

(Continued on page 58)

Below—Borg-Warner Corp., Norge Division, last year purchased this Chattanooga war plant and has converted it for refrigerator compressor manufacture.





Above—Left—Quarter-mile rows of celery in Florida Everglades being cultivated by big-wheel tractor. Right—Hampers of beans move down a conveyor into refrigerator car on way to market.

FLORIDA EAST COAST CUT-OFF SPEEDS CROPS TO MARKET



Above—The new Florida East Coast cut-off from Lake Okeechobee to Fort Pierce.

Below—Belle Glade, showing some of the many packing houses in that Everglades center.



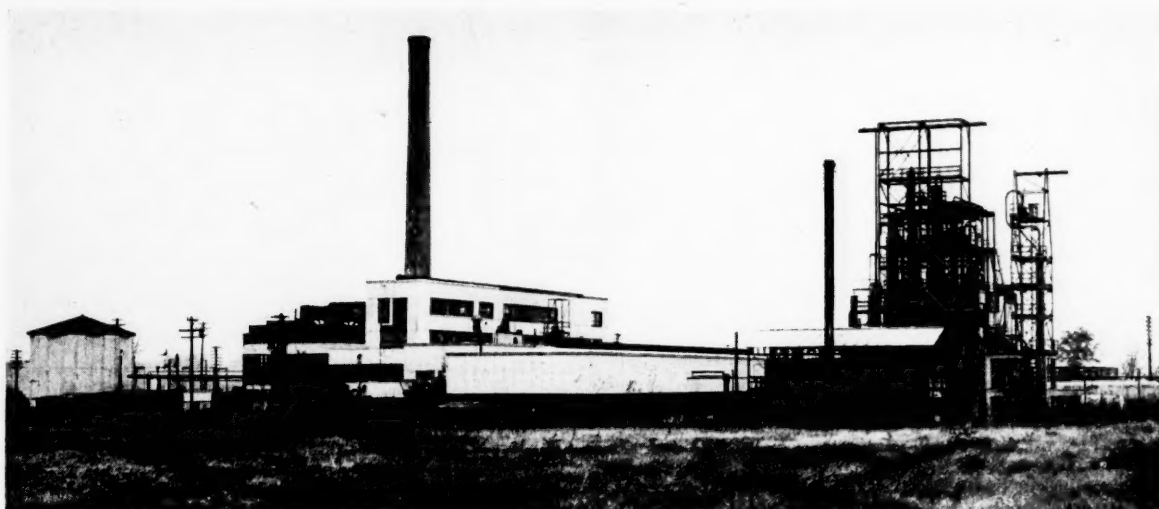
THE Florida East Coast Railway's new cut-off, linking the rich agricultural area around Lake Okeechobee with the main line on the coast, and completed on March 8th, provides shippers in the Glades area with greatly improved service. The rail distance from the Lake Okeechobee district to the main line of the Florida East Coast Railway is cut to only 30 miles over the new trackage to Fort Pierce.

The new cut-off joins the old branch line at a point 150 miles from New Smyrna Beach. The old branch, south of Maytown to this junction point, a distance of 136 miles, is being abandoned but a portion of this trackage, from Holopaw to Maytown will be operated temporarily by the Peavy-Wilson Lumber Company, until their operations in the territory are completed.

The total length of the new line is 29.32 miles. Near the west end it crosses the Seaboard Air Line Railroad's Coleman-West Palm Beach extension. Here interchange facilities and an automatic interlocking plant are being provided.

The new cut-off brings the rich Florida agricultural area around Lake Okeechobee 120 rail miles nearer the Florida East Coast Railway's double track main line.

It is expected that considerable development will take place in the practically virgin territory immediately traversed by the new rail link, as it opens up thousands of acres of new land adapted to pasturage, citrus growing, truck crops and sugar cane.



Above—Exterior of new Heyden chemical plant at Memphis, Tenn., where chlorine, liquid caustic soda and hydrogen are being produced, with chlorinated benzol products soon to be added to the output.

Rock Salt Used at Memphis to Produce Chemicals

by
Zeke Cook

CHLORINATED benzol products, which form the base for DDT and dye stuff intermediates among other things, will shortly be added to the output of the Heyden Chemical Corporation plant at Memphis.

Preparation of the necessary equipment is being carried forward now but no production date has been set. Meanwhile, the plant will continue to turn out the chlorine, liquid caustic soda and hydrogen with which it started operations No-

vember 16, 1946.

This date marked the initial operation of the plant, although it was built during wartime under Government direction. By the time construction and installation of equipment had been completed, there was no longer a need for the plant's pro-

(Continued on page 60)



Above—Pipes with clear glass elbows form what is known as chlorine "pre-cooler."

Below—Long banks of cells where electricity converts the brine into chlorine and liquid caustic soda.



FERTILIZER SHORTAGE HITS SOUTH

BIG business within a bigger business—that is the relationship of the commercial fertilizer producing and marketing industry to agriculture in the United States, more especially the Southern States.

American crops will be more than usually vital this year to the nation's and the world's economy.

The present acute shortage of fertilizing chemicals portends a Nation-disturbing gyration of farm products' marketing prices later this year.

The Government at Washington are trying to do something about this darkening prospect for the farmers.

Not necessarily alarmist but, rather, realistic, it is reasonably conceivable that what some people may consider a relatively minor industrial fact—the fertilizer shortage—could assume before the end of this year something like the importance attributed to the horseshoe nail—the lack of which caused the loss of a kingdom.

The realities of this shortage had been shielded for several months by popular interest in tax reduction prospects, Governmental reorganization and world diplomatic uncertainties. Then, late in February, the situation was revealed clearly by a personage as highly placed as John R. Steelman, advisor to President Truman. He admitted officially that the fertilizer shortage is "serious" and that it will persist this year despite all Governmental remedial efforts.

Within a few days thereafter, from top-ranking sources came impressive indications that Dr. Steelman's report had lifted this situation to a place among the Nation's most urgent problems.

Also, President Truman's advisor disclosed that orders had been issued for the Army-operated plants to reduce ammonium nitrate production, essential in agriculture, from 88,000 tons monthly to 65,000 tons. This was attributed to a shortage of railroad tank cars which grows out of the necessity of diverting this equipment to other transport needs.

This disclosure attained world significance—because the Army's production of fertilizer materials

largely had been exported to war-torn countries where enlivened agricultural activities seem to be considered by the American Government as a prime prerequisite to restoration of peace.

Attracting less widespread attention than Dr. Steelman, R. G. Eubanks of Charlotte, N. C., a leader in the National Cotton Council, had stated publicly a few days previously that the plant food shortage likely will reduce Southeastern small grain yields this Spring by 25 to 40 per cent below normal expectations.

Potash will be unavailable for direct application to grain crops. All available potash must be used in producing "mixed goods" for general farm use. Neither will there be any nitrogen of consequence available in time for application to grain crops.

Mr. Eubanks, an outstanding figure in the fertilizer and cotton oil milling industry, further commented that "perhaps" a fair supply of nitrogen may be available after mid-June for application to the next cotton crop.

In March, Chicago wheat prices went to post-war and record highs, primarily because of America's great grain and flour export program for Old World relief. At the same time, the textile industry, the cotton trade and Southern agriculture slowly began to acquire the impression that over-all unfavorable conditions likely will prevent the increase over 1946's low crop that is desired by the Department of Agriculture for 1947 cotton production.

In this connection, it is impressive to recall that Federal and trade statisticians estimate that the American reserve of domestic cotton at the end of this crop year, July 31, will be around 3,000,000 bales, perhaps slightly larger. In normal times, reserves of 7,000,000 or more bales frequently were recorded.

Meantime, some sentiment in recent weeks has been expressed in

some farm and cotton trade quarters for imposition by the Government of a domestic cotton allotment program. This is opposed as a two-pricing system by various interests, including the cotton manufacturers. Nevertheless, some segments of American business are desirous of retaining at least a handhold upon the American export cotton market. This admittedly presents real difficulties when, as in the present situation, American mills are consuming at an annual rate greater than the 1946 cotton production of the Southern States.

The domestic consumption rate now is slightly above 10,000,000 bales per year, while 1946 domestic cotton production was slightly more than 8,000,000 bales and slightly smaller than the 1945 crop.

Reflecting shortages, prices of cottonseed oil and raw seed this Winter hit peaks, respectively, at 35 cents a pound and \$110 a ton.

Though not a political issue, but an economic "headache," this shortage of fertilizer created new tasks for consumer states' political leaders.

South Carolina Senator Maybank influenced the Maritime Commission to hurry the first two of a fleet of cargo vessels to Chile to bring back nitrates.

Then the North Carolina Legislature formally requested the State's Congressional delegation to press for relief. Representative Bob Doughton thereupon urged Canada's Transport Control at Ottawa to grant a priority, like that issued to the paper industry, for large-scale shipments of Canadian ammonium nitrate into the United States. This chemical is urgently needed for small grain crops and, within a few weeks, for cotton and tobacco.

Fertilizer shortages also extend to potash, super-phosphate and solid nitrogen materials—all aggravated by inadequate plant facilities.

Approximately 14,000,000 tons (new high) of commercial fertilizer were produced last year in American plants. The supply was far from adequate—the industry insists it was because of steadily rising de-

(Continued on page 60)



Above—Exterior of new solvent extraction building of Delta Products Co., near Wilson, Ark. The conveyor runs from the existing hydraulic oil mill to the plant.

Arkansas Plant Uses Solvent to Extract Oil from Cottonseed

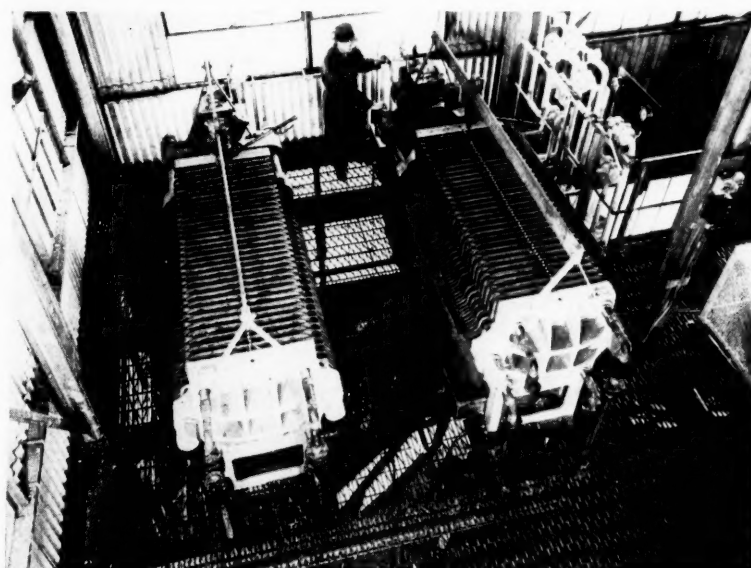
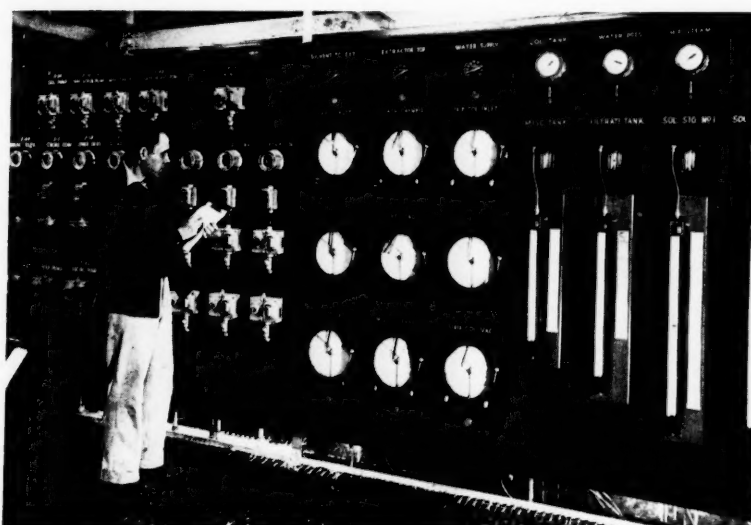
THE world's first commercial plant to use chemicals for extraction of oil from cottonseed has been placed in operation by Delta Products Company three miles south of Wilson, Ark.

A conversion from the hydraulic press method, the new facilities involved expenditure of several hundred thousand dollars and are the first of a number of such projects now in progress and nearing completion in the Arkansas-Tennessee area.

Plants to use the solvent are now being built at Helena and Osceola by cooperatives operating in those Arkansas towns. Buckeye Cotton Oil Co. is finishing a new plant at Memphis, Tenn. A pilot plant is being installed in the same city by Swift & Company.

(Continued on page 66)

Right—The control panel permits automatic regulation of the continuous solvent extraction process. Plate and frame filter presses shown in the bottom picture supplement centrifuge for miscella clarification





Above—Mechanical Dehydrator.

Mechanical Dehydration Adds to Southern Crop Value

by
Beth Buck

CLOAKED in mechanical armor, the ancient practice of dehydration is becoming an industrial prodigy that offers great potentialities to southern livestock and poultry men.

Mechanical dehydration of feed crops for livestock is not too far removed from the quick freezing of food products for human consumption, which is increasingly popular. The procedure makes it possible to harvest a crop at the time nutritive value is at its maximum, thereby retaining all the natural elements.

One of the most important discoveries of recent years is that dehydrated sweet potatoes are equal to or better than those of corn for livestock feed. Their chemical make-up, according to Dr. L. M. Ware, University of Alabama, is the same, but the potato content (66%) is a thousand times larger. Both are essentially carbohydrates. Drying the sweet potatoes leaves the same food value.

Prominent men, well versed in agriculture, claim that there is no record of a sweet potato crop, ever at any time, making a complete failure in the South, and a 400 bushel yield per acre is not uncommon. The Pelican Processor, a white-meat stock-food and starch sweet potato, developed by Dr. Julian Miller in his Louisiana State University experimental farm laboratory, has shown

a 510 bushel yield per acre in bottom-land test crops.

This offers opportunity for Southern farmers to throw off the heavy yoke of expensive imported feeds. Nearly \$300,000,000 worth of dairy products were previously bought annually from other sections of the country.

Neglected has been the value of tuber or "cull" potatoes as stock feed. These "culls," which have been a loss, usually represent about 60 per cent of a potato crop. They may now be processed into a dry form and utilized as livestock feed; or, the dried particles may be sent through a hammermill and chopped fine for poultry feed.

Southern stock men were not able to compete with their northern contemporaries in beef conformation. John Glassell, prosperous Red River plantation owner, got a group of fellow farmers in his automobile and drove up into the Illinois corn belt to investigate. They found corn in abundance, with sleek white-face steers all over the country side. The cattle carried a "prime" ripple in every move. This trip was made in the fall of 1937.

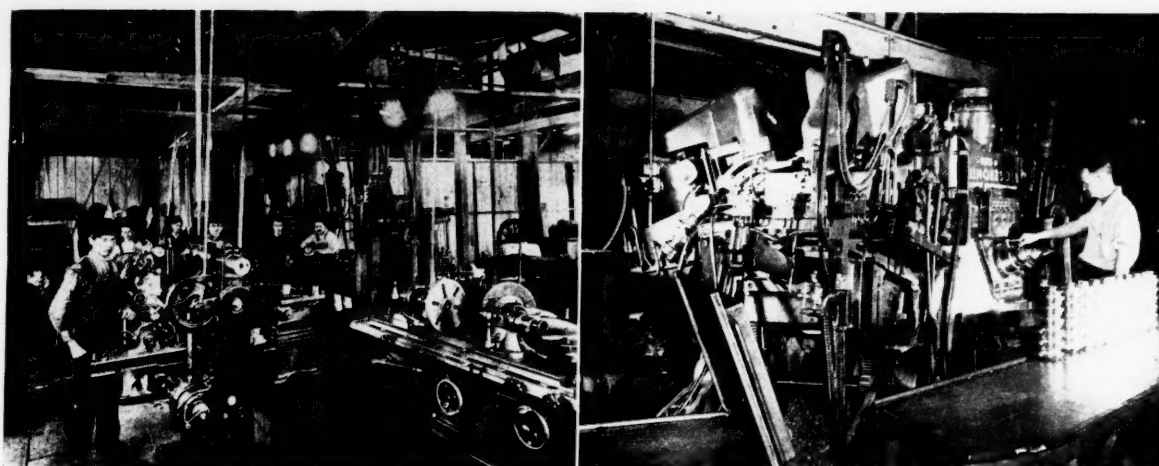
These men returned home convinced that a corn substitute should be developed in the South. Dr. Ware suggested sweet potatoes, sliced and dried in the sun. It was a long tedious undertaking.

Working with Edward F. Neild, Jr., engineer of the J. B. Beaird Company, Shreveport, Louisiana, Mr. Glassell has developed a mechanical dehydrator known as the Challenger.

For every three bushels of yams dumped into the maws of this dehydrator, a bushel of dried feed pours forth. Mr. Glassell mixes a pound of cottonseed meal and four pounds of dehydrated sweet potatoes for his dairy herd. His records show this diet has produced an average of six per cent higher butterfat content than the same herd produced on corn or any other feed. The Challenger can turn 2,700 pounds of sweet potatoes into high-nutrient livestock feed every hour.

Assembled at the Shreveport plant, the machine is a long cylinder, drum-like device. It can be transported by trailer-truck. The rotary drum, 30 feet long, is mounted on cast iron trunion wheels and is driven by means of sprockets and a chain. Vanes or lifts inside the cir-

(Continued on page 52)



Above—Left—Corner of the Houston Car Wheel & Machine Company's building from which Hughes Tool Company has expanded to plants covering 72 acres doing business around the world.

Above—Right—High production miller cuts teeth on 12 rock bit cones while operator loads an additional three.

The Tool Behind Our Oil Supply

A WOODEN spool revolving around a crowbar in a Texas blacksmith shop shortly after the turn of the century, suggested an engineering principle upon which was built one of the South's most important industries, the Hughes Tool Company.

From this principle came the

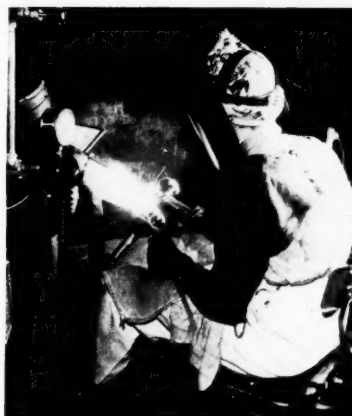
Below—Left—A Hughes rock bit drill bores a hole through a block of granite at the rate of 20 feet an hour in the testing laboratory. Pressure used in this test is 40,000 pounds.

Below—Right—Worker inserts a loaded tray of rock bit heads into an automatic furnace for carburizing and subsequent heat treatment.

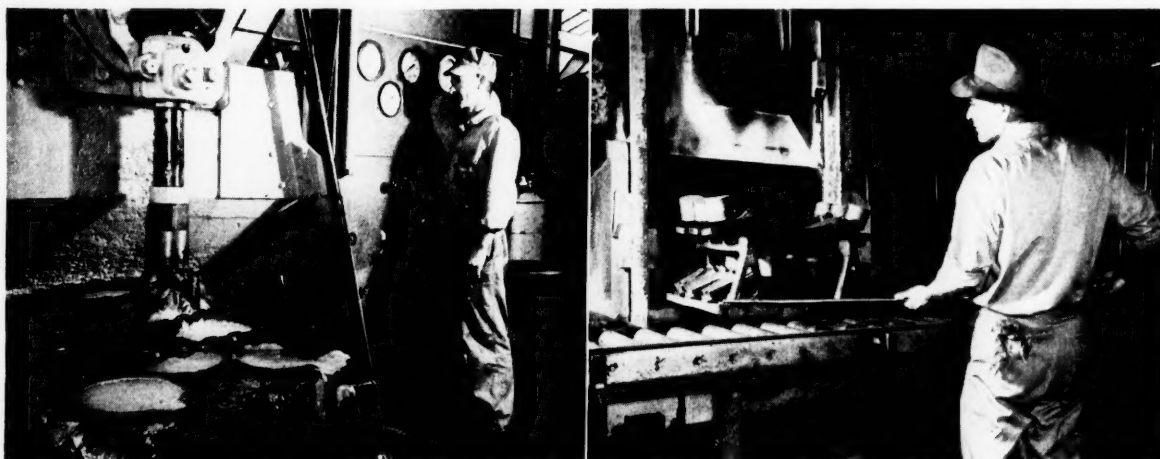
theory of rotary drilling which eventually made possible the recovery of oil in the great Southwest fields below hard rock formations and at depths previously untapped, making available to a motorized age vast new reservoirs of oil.

From it also developed one of the country's most unusual and successful companies, the Hughes Tool Company. Under the direction of its president and sole owner, Howard Hughes, famed aviation designer-flyer, motion picture producer and industrialist, this company not only is the largest supplier of rock bit oil drills, but has a controlling interest in Transcontinental & Western Airlines, has an aircraft designing plant, a motion picture division and operates the largest brewery in

(Continued on page 58)



Above—Two electrodes are used in this welding process at the Hughes plant. The arc is surrounded by hydrogen which is broken down into atomic form and recombined when heat is liberated at the surface of the metal.





Left—Gorgas, Ala., mine where Bureau of Mines, in collaboration with Alabama Power Co. under Milton H. Fies, manager of coal mines, is experimenting with gasification of thin seams and other coal unprofitable to mine by conventional methods.

Birmingham Briefs

by
R. W. Kinney

University of Alabama, Bureau of Business Research, disclosed in its annual report that employment in manufacturing in Alabama stood at approximately 221,600, or about 400 more than the V-J Day level. Industrial activity in the state increased greatly during the year, despite work stoppages hampering a number of major industries. A drop in steel and iron production as a result of strikes was noted, while coal output declined 14 per cent from 1945. Cotton consumption in the state's textile mills was 1,217,168 bales, a gain of 8.4 per cent over 1945.

Condition of the labor market in the Birmingham area continues the improvement started in late January, the Alabama State Employment Service reports. Employment increased last month approximately 900 while the unemployment list showed a drop of 1,000. Significant gains in employment were listed in blast furnaces and steel mills, 330; heating equipment, 135; ore mining, 125; trans-

portation equipment, 105; construction, 75; coal mining, 50, and textiles, 45.

Kilby Steel Company, Anniston, large scale producer of shells during the war, has reconverted and is engaged in production of mechanized farm equipment for the J. I. Case Company, Racine, Wis. Kilby is producing cultivators, disc plows, hay rakes and manure spreaders, and is employing about 300 workers. Shortage of raw materials is holding production and employment down.

United Rubber Workers of America has won an NLRB election at the Goodrich Tire & Rubber Company's Tualoosa plant by a vote of 430 to 93 over the AFL. No-union votes cast totaled 65.

Kearney Steamship Company has filed incorporation papers in the Mobile County probate court with capitalization listed at \$300,000. The company says it will operate ships in intercoastal and foreign trade. Richard A. Kearney, Jr., Mobile, is president; Leland D. Eansom, Millers, Md., vice president, and Mrs. Charlotte Kearney, Mobile, secretary-treasurer.

CPA has approved a \$300,000 building for the University Center in Birmingham, an extension division of the University of Alabama. The building will be on South 20th Street.

Woodward Iron Company, Republic Steel Corporation and Sloss-Sheffield Steel & Iron Company have raised pig iron prices \$3 a ton to compensate, an announcement said, for increased manufacturing costs.

Shortage of steel and a large backlog cost the Birmingham district a substantial part of the order just placed for 1,000 hopper cars by Illinois Central System. George M. Crowson, assistant to the president, said 500 will be built by American Car & Foundry at Madison, Ill., and 500 by American Transportation Company, East Chicago, Ind. The order is valued at \$3,500,000.

Minute exploration of the burned out area in the Alabama Power Company-Bureau of Mines underground gasification experiment at Gorgas, Ala., is under way following quenching of the fire and cooling of the area.

The Gorgas mine, fired January 21 with incendiary bombs, is the first such test in this country and has attracted national attention to an effort to discover feasibility of gasification of thin seams and other coal unprofitable to mine by conventional methods.

Milton H. Fies, manager of coal mine operations for the Alabama Power Company, said combustion was maintained and the fire controlled in a completely satisfactory manner. Gas of varying quality has been produced, dependent upon the use of steam, oxygen and air. Results of the exploration will be made known soon.

Birmingham has been chosen as the 1948 convention city for the Southern Safety Conference following a successful three day meeting here this month.

Woodward Iron Company has set up a new quarterly dividend rate of \$1 a share as compared to the 50 cent dividend heretofore in effect. At the same time, the company voted to reduce the number of authorized common shares from 1,250,000 to 800,000. This in no wise affects the shares issued and outstanding which now total 352,731 upon which the \$1 dividend was distributed March 31.

Considerable expansion for the Carter Manufacturing Company, builders of truck trailers, is indicated following its acquisition recently by Fruehauf Trailer Company. The company is to be known as the Fruehauf Carter division and will be operated by the same management.

Reports from the Southwest

by
D. F. Summers

A new, rich blood was poured into the industrial veins of the Southwest during March when the War Assets Administration told Lone Star Steel Company officials at Dallas they could have the \$24,000,000 blast furnace and coke oven installations at Daingerfield in North Texas for \$7,500,000.

The purchase price, which will be paid off in ten years, will include coal mines in Oklahoma, valued at \$6,000,000.

The deal marked success to the unremitting efforts of Lone Star's president, John W. Carpenter, for developing the vast iron ore reserves of the also oil and timber-rich East Texas area. Output from the plant annually is expected to amount to about \$25,000,000. Profits will include also the by-products from the coke ovens.

In closing the transaction, Lone Star was forced to amend its Texas charter so that \$1,000,000 could be put up for the plant. Another million will be obtained through the Reconstruction Finance Corporation and will be returned at \$2 per ton of ore produced.

Half of the yield from the mines will be allotted the Sheffield Steel Company, Houston, until the present shortage of pig iron is eliminated or relieved. The Houston firm needs the coal to make coke for its blast furnaces.

Officials of Lone Star will be Carpenter, president; Dr. George H. Anderson, vice-president; George D. Ramsay, vice-president and operating manager, and E. L. Brumley, sales and distribution.

Possibilities of the Southwest getting its first woolen mill and cotton finishing plant at Garland, near Dallas, were still pending late in March with the War Assets Administration.

The Dallas Cotton Mills, Texas son of the huge Horvath Mills of New York City, originally bid \$900,000 for the old Continental Motors plant at Garland, valued close to its \$3,000,000 war-time cost and covering 104½ acres.

Ernest Horvath, treasurer of the New York mills, is reportedly awaiting a WAA counter-proposal of \$1,000,000. The parent New York firm plans to ship all equipment and the machinery at its Bloomfield, N. J., and Phillipsburg, Pa., plants to the site if negotiations are completed with WAA.

WAA has already turned down a bid from Luscombe Aircraft because of the time wanted for leasing. Seiberling Rubber Company left the location after disposing of plans for development in this area. The Dallas mills desire to lease the five-year-old factory at \$50,000 a year for five years, after which the balance of \$650,000 will be paid off.

The Luscombe corporation, incidentally, outdid most light airplane manufacturers by reporting a \$117,872 net profit for its 1946 operation. Sales amounted to \$5,900,574 and stretched into Canada, South

America, Sweden and Belgium. Luscombe produced 2,483 all-metal 65-horsepower and 85-horsepower planes during this first postwar year.

Near the site of the factory the Horvath firm is attempting to get at Garland is the Southern Aircraft Company plant which has successfully and remarkably converted its wartime manufacture of airplane parts to an output of gas space heaters and bodies for school buses. Company officials are working on plans now for a third product—a portable electronic flash unit to replace the photographer's flash bulbs. Output of the heaters since production began last July has averaged 1,400 a day.

Southwest manufacturers and businessmen not moving into larger quarters are at least trying to meet greater demands through proposed construction programs.

Texas Power & Light Company and Texas Electric Service Company see a much-needed building program that cannot await the availability of funds for permanent financing, and have gone to American Power & Light for a loan of several million dollars. Permission for the loan is being sought from the Securities and Exchange Commission.

C. L. Stewart, division manager in Dallas for Southwestern Bell Telephone Company, said in March that his company is working on a \$5,900,000 construction program in Dallas alone for this year. The firm is the city's largest industrial employer with 3,794 people who drew an \$8,282,979 payroll last year. Stewart said applications for telephones are coming in at a monthly rate of 3,000. His figures indicate an unslackening growth of Dallas.

This building population in Dallas has offered a big attraction to outside industries and businesses. Kelly-Springfield Tire Company made a note of this recently and announced its plans for establishing a wholesale distribution branch at Dallas to facilitate what it calls a rapidly expanding Texas tire market. The city is recognized as a market center for tires, especially for farm equipment. The branch office will serve the North and West Texas areas with M. T. Powers as sales manager for the company. The company has another branch office at Houston.

Another construction program is promised at the Southland Paper Mill at Lufkin in East Texas. The expansion was definitely indicated early in March when the plant was assured of priorities from the government in obtaining additional machinery. The mill has attracted considerable attention recently by the newsprint shortage and has partly gained a point in proving to Washington officials the advantage of a newsprint supply in the South.

Elsewhere over the state, the same expansion programs are discovered. At San Antonio, CPA has approved a \$300,000 addition to the city's power plant at San

Benito. Westinghouse has launched plans at Houston for a \$763,833 plant which will increase electrical appliances output 25 per cent. Also in Houston, work has begun on Foley Bros., \$10,000,000 department store whose 6½-story structure will cover 1½ blocks downtown, and Hovey Petroleum Company is completing plans for its \$200,000 wax-asphaltum plant.

Pure Oil Company has a \$9,000,000 expansion schedule underway at its Smith's Bluff refinery in East Texas' Jefferson County. The construction will involve a soap grease plant and units for producing sulphurized cutting oils and high pressure lubricants.

The man who supervised construction of the Big and Little Inch pipelines, Burt E. Hull, Houston, has been named a vice president of the Texas Company. The company has joined with Shell Oil in the building of a \$100,000,000 crude oil pipeline from the West Texas Permian Basin to the big pipeline terminal at Cushing, Okla. The system will be 500 miles long.

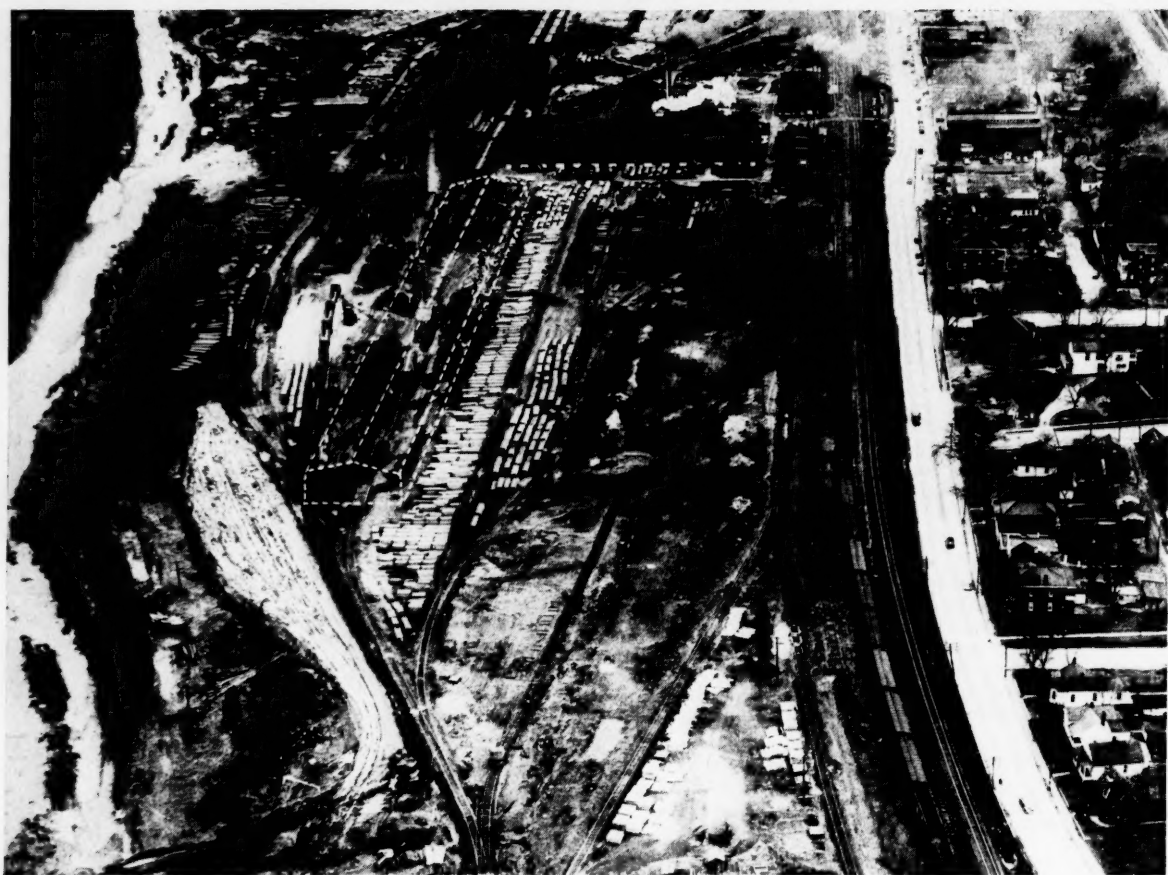
J. Howard Pew, president of Sun Oil Company, resigned from his position March 18 after thirty-five years with the firm. He will continue with the company as a member of the board.

While the Texas building boom is scoring its fastest pace since the end of the war with \$93,181,097 in contracts for the first two months of this year (new business buildings amounting to \$1,179,477 in contracts), investors over Texas are still awaiting establishment of a definite trend. Sellers are holding on for a better profit and investors are simply not buying. Trading is dull, naturally, because of this uncertainty. Bank stocks, however, are firm, insurance is steady and utility preferred at highs for the year.

Significant among comments in Texas during March was that of Charles E. Wilson, president of General Motors Corporation. Wilson, visiting on the Gulf Coast, spoke favorably of a promising chemical industry on the Texas coast. He thought that the freight hauling situation and a poor distribution of population, though, would discourage the building of a huge GM plant in Texas.

Uranium Seen in Oil Shale

Recent developments indicate that the abundant, and as yet untapped, shale oil resources of the South hold important potentialities as sources of uranium and uranium oxide used in generating atomic energy. Dr. Gustav Egloff, director of research for Universal Oil Products Co., 60 E. 42nd St., New York 17, N. Y., states that uranium oxide is one of several by-products obtained in producing oil from shale. The shale is radioactive and contains, generally, about 220 grams, as determined by operations that have been going on in Sweden for some time.



Above—New car building shop of Missouri Pacific Lines at DeSoto, Mo., will occupy space indicated by the dotted lines. Present main shop building appears in the upper right foreground. Main line of the railroad is at the right.

Missouri Pacific Spends \$750,000 on New Shop to Build Freight Cars

THE sound of industry is loud in the ears of residents of DeSoto, Mo., a city of some 15,000 persons situated in the Ozark Mountains 45 miles south of St. Louis. It comes from the determination of Paul J. Neff, president and chief operating officer of Missouri Pacific Lines, to provide freight cars necessary to carry on the nation's business.

Missouri Pacific, like all major railroads, found itself tragically short of rolling stock at the close of the war. Efforts were made to buy needed equipment, and two independent car builders did accept orders for 1450 steel box cars. This was about 1000 short of the number needed, and no other builder appeared willing to take on the job of supplying them.

Mr. Neff, a railroad man of long experience and great resourceful-

ness, took the matter home with him. He slept with the problem for weeks. Missouri Pacific needed to expand. Instead, it was being crippled by an ever increasing shortage of cars. And so, being a man not easily stymied, he reached a decision.

"If we can't buy 'em, we'll build 'em," he declared.

And that is just exactly what Missouri Pacific is preparing to do at DeSoto.

Modern Turpentine Methods Summarized in Bulletin

Modern practices in the turpentine industry increase the average yield per tree anywhere from 30 to 90 percent, according to studies published recently by the Department of Agriculture's Forest Service. The report is based on scientific research at Southeastern Forest Experiment Station, the University of Florida, and the Naval Stores Research Division of the Department of Agriculture, in co-operation with numerous timber owners throughout Georgia, Florida, Alabama, Mississippi, South Carolina and Louisiana.

The new methods consist mainly of "acid spray" and "bark chipping" procedures which, with the average tree, prolong the flow of gum from wounds in the trunk for as long as three weeks.

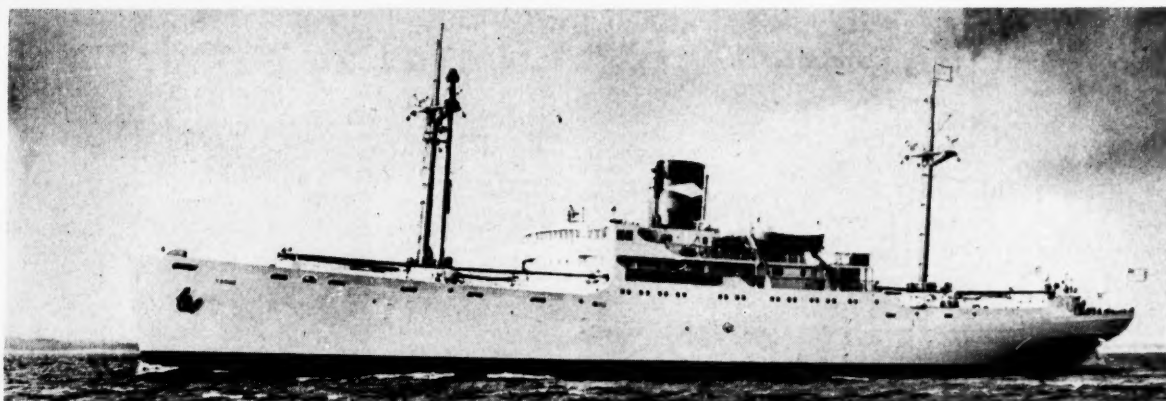
With older methods it is necessary to freshly "chip" the trees at least once a week to maintain the flow. Now, one acid-treated streak will yield in three weeks time nearly as much gum as three of the untreated streaks.

While special training is required in applying the new procedures, the average turpentine laborer can be taught to operate the acid spray gun, most novel of the new developments, within 15 or 20 minutes.

Modern Turpentine Practices, Farmers' Bulletin No. 1984, may be obtained by writing Office of Information, U. S. Department of Agriculture, Washington 25, D. C.

Tire Plant Nears Capacity

Reported to be the most modern of its kind in the industry, the new \$11 million Tuscaloosa, Ala., plant of B. F. Goodrich Co., is nearing capacity production of 6,000 tires and tubes daily, it is announced by T. G. Graham, vice president of the company. The plant, completed in 1946 represents an investment of \$15,000 per worker, based on employment of 750 persons at capacity production.



Above—The S. S. Yaque, first of a new fleet of nine refrigerated cargo-passenger ships built for the United Fruit Company at Sparrows Point, Md., by Bethlehem Steel Company.

Schools Offered Surplus Tools

Millions of dollars worth of surplus machine tools, heretofore too costly for schools to afford, will be placed within their financial reach under War Assets Administration plans to sell such tools for educational purposes at a fraction of their original cost. By revision of Order 7 to Regulation 14, more than 300 different types of metal-working machinery will be priced for educational buyers at five per cent of "fair value." The order includes machines such as lathes, drill presses, boring machines, gear-tooth grinders and milling machines.

Wood Garden Bears Fruit

A "wood garden" maintained in Jacksonville, Fla., since 1935 by Chapman Chemical Co., 333 N. Michigan Ave., Chicago, Ill., serves as a testing plot to un-

cover facts about wood preservation. Short posts of wood are actually set out like tomato plants in neat and even rows, and from the observation of these, are developed techniques for protection of wood from moisture, fungi and insect damage. The end result aimed for is the addition of years to the service life of telephone poles, fence posts, millwork, structural timber and a host of other lumber products.

Norfolk Terminal Leased

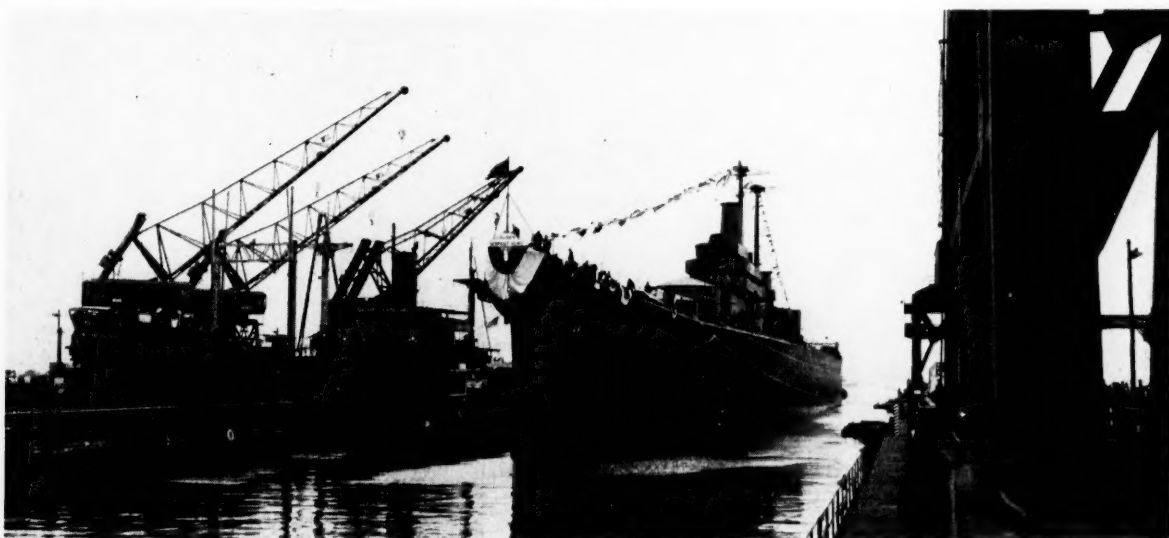
Approval of the bid of the Stevenson and Young, Inc., with main offices in New York, for the operation of the Norfolk Army Base Terminal at Norfolk, Va., under lease from the United States Maritime Commission, is announced. Stevenson and Young, high bidder at the public opening on March 6, offered 33½ per cent of all gross revenue with a minimum

rental of \$15,000 per half pier and \$1,008 per warehouse section per year. The commission had set 25 per cent with a minimum annual guarantee of \$15,000 per half pier and \$725 per warehouse section per year as the lowest bid to be considered. The lease will run for five years.

State Operates Port

The state of South Carolina has begun operation of all public shipping facilities in the port of Charleston. The South Carolina State Ports Authority received from the city of Charleston the management of all municipally-owned docks and warehouses, together with office buildings and other properties used in port operations. The 13-mile "belt-line" waterfront railroad was also turned over to state control. Management of the facilities, city-owned and operated since 1922, was given to the ports authority pending formal transfer of title, expected shortly.

Below—The heavy cruiser Newport News, just after she left the graving dock from which she was launched at the Newport News Shipbuilding and Dry Dock Company. One of three ships of her class under construction, the Newport News is the second Navy ship to bear the name of that Virginia City. She is 716 feet long, 76 foot beam, and has a speed of 30 knots. The 17,000-ton vessel has nine rapid-firing 8-inch guns which are automatic from ammunition handling rooms to their muzzles. All living and working compartments are air-conditioned except machinery spaces. The ship will require 105 officers, 1745 enlisted men.



News from Industry

Package Conveyor

A new lightweight portable power conveyor for handling bags, boxes, crates, cartons, baskets, and all kinds of packaged material has been announced by Material Movement Industries, 310 So. Michigan Ave., Chicago 4, Illinois. It is called Model P-10-8-1/2 Tote-All Packaged Material Zephyr. Made of special lightweight alloy steel, which is corrosion and



Package Conveyor.

abrasion resistant, the 10-ft. model weighs only 291 lbs., complete with power unit and under-carriage. Can be easily moved by one man from one conveying job to another. Power is furnished by electric motor coupled direct to gear reducer. Overall conveyor depth is 5 1/2 inches. Belt width 8 inches. Rear wheels of undercarriage are solid-front wheels are swivel casters. Either end of 10 ft. model may be raised to 6 ft. height. Recommended carrying capacity—40 lbs. to the foot, distributed load.

Press-Veyor Cleat

Development of a new curved cleat that cannot be pulled loose regardless of the condition of the conveyor belt is announced by The Rapids-Standard Co., Inc., material handling equipment manufacturers of Grand Rapids, Michigan. The new cleat is standard equipment on the company's Press-Veyor power belt conveyor used primarily to convey stampings through punch-press operations and for various other uses. It is formed from 12-gauge steel, and is securely fastened to the conveyor belt with round-head bolts, hug-lock nuts and a 13-gauge steel reinforcing strip. Fastening of the cleat entails drawing a small area of the belt within the concave side of the bottom leg of the cleat. This frees the reinforcing strip from contact with the conveyor bed and provides a vise-like grip that keeps the cleat solidly fastened.

Inquiries regarding applications of the improved Press-Veyor should be directed to The Rapids-Standard Company, Inc., Dept. PC-22, 308 Peoples National Bank Building, Grand Rapids 2, Michigan.

Powder-Metals Press

To meet the demand for compacting a wide range of powdered metals parts, the F. J. Stokes Machine Co. is offering an "S-3" cam type press of 40 tons capacity, to operate at speeds up to 30 strokes per minute. In general, this new press is similar in design to the well-known Stokes model "S-3," in use in the production of splined bushings, oil-less bearings, spur gears, Alnico magnets, machine parts, iron cores and many other powder-metal parts.

This press is an automatic, cam operated machine in which independent cams control the synchronized movements of both upper and lower punches. It is equipped with a compound lower punch designed to operate either as a secondary lower punch or as a movable core rod. If desired, this mechanism can be locked in place to serve as a stationary core rod.

The maximum die fill is 6 1/4" and the maximum diameter of piece that can be pressed is 3".

Alignment of the press is within .001" in the several planes involved. Built into the press is a lever-operated combined clutch and brake which speeds up set-up time, as well as instantly starting or stopping the machine.

Equipped with variable speed drive, production rates are from 10 to 30 pieces per minute, depending upon material and size and intricacy of the piece. The machine weighs approximately 12,000 pounds, complete with variable speed drive and 7 1/2 hp motor. For further details on this and other automatic presses, write F. J. Stokes Machine Company, Philadelphia 20, Pa.

New Nickel-Monel Product

Development of rolled nickel, or monel clad steel strip has been announced by Superior Steel Corp., Carnegie, Pa. This composite strip is available in widths between one-quarter inch and ten inches, in coils ranging up to several hundred feet depending upon gauge.

Anti-Corrosion Equipment

New equipment designed to correct pitting, corrosion and priming has been announced by No-Kem Engineering Co., Louisville, Ky. The new procedure is particularly directed to maintenance of boilers, preheaters and split condensers.

New Aluminum Flux

All-State Welding Alloys Co., Inc., 96 West Post Road, White Plains, N. Y., announces the immediate availability of a new aluminum flux for brazing sheet aluminum. This flux has a low melting point of around 950 degrees Fahrenheit and becomes quite active at 1,000 degrees Fahrenheit. It breaks down into a completely liquid state and gives capillary action to the aluminum brazing alloy. If the parts that have been welded are submerged in hot water while still hot, nearly all traces of the flux are removed.

New Aluminum Products

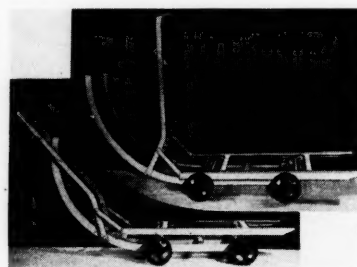
Virginia Foundry Co., Charlottesville, Va., in producing two new and novel lines of products, is utilizing aluminum for which the South is the only domestic producer of raw material. One of the lines being made by the Virginia company consists of aluminum furniture; the other of aluminum lamps.

Mobile Canteen

A new mobile canteen known as Model 40, for dispensing complete meals or snack type lunches for 40-100 people is announced by Mealpack Corp. of America, 152 W. 42nd St., New York, N. Y.

Complete full-course hot meals for 40 people can be served from each cart including entree, warm bread, dessert, hot (or cold) beverage and soup, or a combination of 40 hot meals and 60 light lunches can be delivered and served where and when wanted. It is small enough to be easily pushed by hand, or several may be readily rolled into light delivery trucks and dropped off as desired within a radius of 35-50 miles. "Self-service" or dispensing of foods by any individual, may be organized at points of service, because each meal remains sealed and protected from kitchen to consumer.

Mealpack Mobile Canteen.



Arcade Hand-Lift Truck.

New Hand-Lift Truck

A new light hand-lift truck has been developed by Arcade Mfg. Division, Rockwell Mfg. Co., Freeport, Ill. The new equipment is designed for handling short-move jobs involving loads up to one ton in factories, warehouses and transfer depots. The truck is represented as being husky, durable and useful for moving skid loads, boxes, trays and other miscellaneous loads. Overall length is 70 inches, platform area 11 by 43 inches. The truck is being distributed through mill supply houses and equipment dealers. Illustrated bulletin may be had from the company on request.

Automatic Controller

A "pneumatic brain" will be a standard feature of all 1947 Automatic electric industrial trucks. The Newmatic controller, which operates as the electrical counterpart of the automobile automatic gearshift, has been adopted as standard equipment by its designers, Automatic Transportation Company, 149 West 87th Street, Chicago 20. It will be installed on all the company's 1947 trucks, Elmer F. Twyman, general manager, has announced. The new control system made its first appearance on Automatic's new Skylift fork truck, the first of the company's 1947 line, which was introduced in January at the National Materials Handling Exposition in Cleveland. The new controller provides automatically timed sequence of four speeds in forward and reverse.

It is claimed to make jerky movement impossible—in starting, reversing or accelerating—thus eliminating tire slippage and minimizing spillage of loads, and to reduce the peak electric current surges by two-thirds, extending the service life of the entire electrical system almost indefinitely.

New Plastics Press

Vertical construction incorporating the use of a single hydraulic cylinder characterizes the new G. & L. Vertical Plastics Injection Press, manufactured by the Giddings & Lewis Machine Tool Co., Fond du Lac, Wis. This departure in general plastics press design means the addition of many features simplifying molding problems. The arrangement provides for clamping the mold halves together and injecting the plastic material into the mold cavity in the same stroke of the piston rod. The single cylinder performs a dual function and eliminates the necessity of having elaborate mechanisms common to conventional multiple cylinder injection presses.

Radar Cooker

Radara is the trade-mark of Raytheon Manufacturing Co., Waltham, Mass., for its electronic cooking device, claimed to cook food in a fraction of the time taken by conventional methods. Electronically prepared food is declared superior to that cooked by most other methods because the rapid cooking does not permit natural oils and flavoring to escape. Cooking done in the Oven-Chef is reported to be fast, clean and free from grease, smoke or odors.

Paint Spray Protector

A new plastic paint spray protector coat and known as Plask is being offered by Servwell Products Co., 4523 Euclid Ave., Cleveland, O. The new product is applied like paint and is said to dry within five minutes. It affords good paint spray protection and peels off in large sheets. Its masking utility is recommended for glass and unfinished plate metal surfaces including baked synthetic enamel.

New Plastic Packing

Power Products Co., 11 Broadway, New York, has developed a new corrosion proof packing which is composed of approximately 93 per cent "Teflon" in shredded form. The balance is graphite and a suitable bond. Available only in molded rings, it has been used successfully against oleum, nitric acid, sulphuric acid, chlorinated solvents, Bromine and many other corrosives.

New Auto, Boat Paint

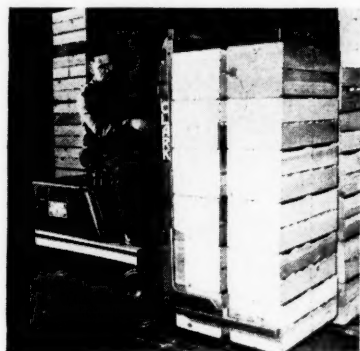
A new household, auto body and boat paint said to embody results of exhaustive resin research conducted during the war, is now being produced commercially by the Resinite Chemical Corp., 2542 N. Lincoln Ave., Chicago, Ill. Claims are that the new paint is scientifically compounded with the same type of resins used by the Army and Navy on tanks, ships, planes, and other vital materials which had to stand up under severest conditions of intense heat, extreme cold, salt air, salt water, and in contact with acid-laden fumes.

Automatic Letter Writer

A unit consisting of a perforator and automatic typewriter, combining to form an electric automatic machine said to enable one stenographer to individually type as many as 600 letters in one eight-hour day is announced by Justewriter Corp., 1 Leighton Ave., Rochester 1, N. Y. Called "Flexewriter," it is recommended to eliminate form letters and to give each letter the appearance of being individually typed. It operates as follows: When the standardized letter has been written, the typist types the letter on the keyboard of the electric typewriter. During this process the perforator makes a record of the letter by punching holes in a small tape.

Clamp-Lift Truck

Clamping device known as "Clamp-Lift" that enables a fork truck to pick up and carry as many as 18 crates of fruit or other produce without using a pallet, is recommended by its makers for handling fruits and vegetables. It is claimed that a single fork truck equipped with "Clamp-Lift," is engaged in normal routine work, handles 5,000 to 6,000 boxes of lemons in an 8-hour period. Designed for use



Clark Tractorfork.

on Clark Tractorfork's Clipper and Truclolader fork trucks, both gas and battery powered, the device handles crates stacked 7 to 9 high, two rows deep. The lifting height is limited to 84 inches. The Elec-Truclolader can be equipped to handle 9 to 11 boxes high, but lift is restricted to 6 inches. Complete information concerning "Clamp-Lift" may be had from Clark Tractorfork, Division of Clark Equipment Company, Battle Creek, Michigan.

Are Welding Electrode

Hardalloy is the trade name of a new direct current, reverse polarity are welding electrode, that provides weld metal which is highly resistant to impact or abrasive wear in hard-surfacing applications. The weld metal as deposited tests 59.0 Rockwell "C" hardness and is capable of being heat-treated for machining or grinding, and subsequently re-heat treated to restore it to its as-deposited hardness. The low-hydrogen electrode coating minimizes underbead cracking on hardenable steels. The weld metal fuses readily with the base metal providing a sound, porosity free alloy for hard-surface applications. It is manufactured in five sizes from 3/32" to 1/4" by The McKay Company, 1005 Liberty Ave., Pittsburgh 22, Pa.

New Capacitor Relay

A relay for use with single phase AC capacitor motors for oil burners, refrigerators and similar equipment has been developed by Ward Leonard Electric Co., Mount Vernon, N. Y. Its makers claim that a number of maintenance problems are eliminated by the unit which is designated Bulletin 109 Relay. The product is described as a device which operates over a wide range of voltages.

Measuring Device Converted

An angular rate measuring device used during the war for computing gunights has been reconverted to peacetime use by Fairchild Camera and Instrument Corp., Jamaica, N. Y. The device is now being used where measurement for control is required, such as in stabilization systems, speed control for factory machines, computing systems, angular velocity indicators and accelerometers. It is known as DC Rate Gyro.

New Compressors

A complete new line of two-stage, air-cooled stationary air compressors has been announced by the Sullivan Division, Joy Manufacturing Co., Oliver Bldg., Pittsburgh 22, Pa.

"Unitair" compressors are available in nine sizes with power requirements ranging from 15 to 100 horsepower and piston displacements from 81 to 590 cubic feet per minute at 100 lbs. discharge pressure per square inch, based on 60 cycle motor speeds.

The three standard electric drives include built-in motor, direct-connected motor and V-belt drive. "Unitairs" may also be equipped for use with gasoline or diesel engines.

Dehydrator Prevents Feed Loss

A new dehydrator which makes it possible for farmers to dry and store perishable farm feed products which would otherwise spoil in a short time, trade named "The Challenger," is manufactured by the J. E. Beards Company, Inc., of Shreveport, La., and is fired by an industrial-type rotary burner made by York-Shipley, Inc., York, Pa. The drying is done in a long revolving cylindrical drum through which the furnace heat is drawn by an exhaust blower. The raw product is fed into a hopper near floor level and is conveyed to the shredder, where revolving corrugated knives cut it up and feed it into the upper end of the dehydrator drum. The revolving drum feeds the drying products gradually to the separator at the outlet end where they are ejected for cooling, sacking and storage. Root crops such as potatoes, stock beets, etc., make excellent livestock feed but they deteriorate rapidly and cannot be stored in their original state. Quite frequently they go to waste. For instance, 50 per cent of the average sweet potato crop—in the form of culls, jumbos, strings, and roots—is left to rot. This sorely-needed feed material can be salvaged and stored indefinitely using this new oil-fired dehydrator which processes anything from beets to alfalfa.

Synchronous Motors

Newly available "Heavy-Duty" synchronous motors for constant-speed drives up to 1,000 hp. in splash-proof construction often desired in paper mills, chemical plants, mining and milling operations, and for pumping jobs, are announced by Electric Machinery Mfg. Co., Minneapolis 13, Minn. Included are stator frame, access plates designed for brush removal and replacement, sealed bearings, and double-end ventilation.

New Cast Iron Electrode

"Nicast" is a new P&H electrode reported by the manufacturer to put cast iron in a class with steel for ease of welding and finishing.

Numerous analyses of metal and coating materials were tested and this research and testing resulted in "Nicast." It was made to operate on either AC or DC current, and is now available at P&H distributors in either 1/8" or 5/32" x 14" sizes. Further information can be had by writing Harnischfeger Corporation, Welding Division, Milwaukee 14, Wisconsin.

Coming Events

April 1 to 23—27th Annual Exhibition of Southern States Art League to be held in Virginia Museum of Fine Arts, Richmond, Va., including prizes by E. S. Shorter of Columbia, Ga., and George Muth, Washington, D. C.

April 6-8—Valley Oil Seed Processors Assn. Convention, at Buena Vista Hotel, Biloxi, Miss.

April 8-11—American Management Assn. Packaging Exposition, Convention Hall,

Philadelphia, Pa. Conferences on packaging, packing, shipping; 95,000 square feet allotted for exhibits; Alvin E. Dodd, president.

April 9-Sept. 18—Meetings on problems of private flying, sponsored by CAA; Birmingham, Ala., Apr. 9; LaGrange, Ga., Apr. 23; Jackson, Miss., May 21; Charlotte, N. C., June 18; Columbia, S. C., July 16; Nashville, Tenn., Aug. 13; Atlanta (Second Regional Conference), Sept. 16-18.

April 14-17—Second Southern Mach. and Metals Exposition, Municipal Auditorium, Atlanta, Ga.; R. S. Lynch, exposition president; theme, "The Industrial South."

April 15-17—11th National Meeting, American Chemical Society, Atlantic City, N. J.; Prof. Maurice Stacey, of University of Birmingham, guest of honor.

April 28-May 1—51st Annual Convention, American Foundrymen's Assn., Detroit, Mich.; four gold medals to be awarded; F. J. Walsh, board of awards chairman.

May 6-10—Second National Plastics Exposition of Society of the Plastics Industry, at the Coliseum, Chicago, Ill.

May 17-24—Sales Managers' Clinic, Battery Park Hotel, Asheville, N. C.; an executive Leadership clinic to be held the following week, May 24-31; at Asheville's Grove Park Inn; sponsored by Bengt Associates, 29 N. Wacker Dr., Chicago, Ill.

June 2—Opening The National Federation of Sales Executives' Convention; A. T. Danielson, president of the Federation.

May 1 and 8—Public Hearings by Boiler Code Committee of The American Society of Mechanical Engineers on revision of ASME boiler construction code. First meeting May 1, Rice Hotel, Houston, Tex.; second May 7, Biltmore Hotel, Los Angeles, Calif.; copies proposed revision available from ASME, 29 W. 39th St., New York 18, N. Y.

May 5-9—Industrial Gas School under auspices American Gas Assn., to be held at the Seneca Hotel, Columbus, O.; Karl Emmertling, chairman, 420 Lexington Ave., New York 17, N. Y.

June 15-19—Semi-Annual Meeting, The American Society of Mechanical Engineers, at Stevens Hotel, Chicago, Ill.; John R. Michel, chairman general committee.

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Southerners at Work

Association President

With pecan growers assembled from Florida, Alabama, Georgia, and South Carolina for the 40th annual meeting of Southeastern Pecan Growers Association, J. P. Gunnels of Sherman, Ga., was elected president for the coming year.

Textile Company President

R. E. Hightower, Jr., has been elected president of Thomaston Cotton Mills, Thomaston, Ga., in conjunction with his present position as treasurer. As president he succeeds his brother, the late W. Harrison Hightower, who was also chairman of the board. Other officers elected: Julian T. Hightower, executive vice president; W. H. Hightower, Jr., vice president and assistant treasurer; George H. Hightower, vice president; P. T. Mitcham, secretary. Board chairman has not yet been named.

Heads Development Group

O. K. Quivey, manager agricultural development of the Baltimore and Ohio Railroad, was elected president of the American Railway Development Association at its annual meeting held at Dallas, Texas, March 10-11-12. Mr. Quivey has just finished his term as first vice president of the association which is composed of agricultural, marketing, land settlement, industrial, real estate and public relations representatives of the leading railroads of the United States and Canada.

Institute Medal Winner

Charles Allen Thomas, vice president and technical director of Monsanto Chemical Co., St. Louis, Mo., was named as the second recipient of the Industrial Research Institute Medal at the conclusion of the Institute's winter meeting in Chicago, February 27 and 28. The medal is given for an outstanding contribution to the field of industrial research. Dr. Charles S. Venable, president of the Institute, stated that the presentation will be made to Dr. Thomas at the annual meeting of the Institute in June.

Tung Association Formed

Dr. P. E. Daniels of Mobile was elected first president of Alabama Tung Growers Association, recently organized at a meeting in Mobile. Other officers are: A. F. Morrill, Mobile, vice president; F. M. Henry, Mobile, secretary; and Mrs. John W. Huling, Fairhope, treasurer. Directors include R. E. Schwartz, Citronelle; A. D. Wear, Grand Bay; Gary Ellis, Bay Minette, and Mrs. C. R. Baldwin, Sr., Fairhope.

Reserve Bank Director

The Board of Governors of the Federal Reserve System has announced the appointment of W. T. Bland of Lake Jem, Fla., as a director of the Jacksonville Branch of the Federal Reserve Bank of Atlanta for the unexpired portion of the term ending December 31, 1949. Mr. Bland is a citrus fruit grower and nurseryman.

Assistant Superintendent

Olney Broun has been appointed assistant general superintendent of the Rustless division of The American Rolling Mill Company, Baltimore, Md. This announcement was made recently by G. D. Moomaw, general manager of the division. Mr. Broun first joined the Rustless organization in 1936, as a metallurgist. Since that time he has been specializing in that field. In 1940, he was named superintendent of the production metallurgical department, and in that capacity has been responsible for the control of metallurgical practices in all plant production departments.

Virginia Office Opened

Paul H. Werres Co. of Washington, D. C., sales representatives for The Mercury Manufacturing Co.'s line of industrial trucks, tractors and trailers, has announced the opening of a new sales office in Richmond, Va. The office will be under the direction of Winston R. Connors and is located at 216 N. 2nd Street.

Appointed Representative

Appointment of L. S. Luther & Co., 1018 Eighteenth St., Washington, D. C., as engineering sales and service representatives in the District and in most of Virginia and Maryland has been announced by Liquid Conditioning Corp., Linden, N. J., manufacturers of Liquon equipment and Liquonex materials for water treatment processes. The Luther organization is headed by Lloyd S. Luther and also includes W. Norman Meyer, mechanical engineer.

Named Tampa Distributor

Ellis & Lowe Co., has been appointed distributor in Tampa, Fla., for the industrial rubber products of Hewitt-Robins, Inc., Buffalo, N. Y. The distributing firm, headed by J. E. Ellis and B. B. Lowe, employ six outside salesmen who specialize in equipment for canning plants, phosphate mines, shipyards and other heavy industries that use conveyor belts, transmission belts and industrial hose such as made by Hewitt.

Southern Dealers Appointed

The appointment of a southern regional manager and five dealers for hydraulic power units, valves, and controls manufactured by Hydro-Power, Inc., Springfield, Ohio, is announced by L. R. Cano, sales promotion manager of the company. Joseph C. Tourne, The General Engineering & Equipment Corporation, 618 Carondelet Bldg., New Orleans, La., has been appointed regional manager for the southern section of the United States. The American Machinery Corporation, Orlando, Fla., will handle Hydro-Power equipment in Florida; Jack Fanning, Atlanta, in Georgia; Riddell Engineering Company, Inc., Birmingham, in the state of Alabama; Southern Engineering & Supply Co., Vicksburg, in Mississippi; and D. B. A. Engineering Sales Company, Houston, in Texas.

Cotton Research Group

The cotton advisory committee is the first of 20 commodity groups to organize for its part in developing proposals for using the new research legislation. As chairman of the 11-man committee, the members chose Ransom E. Aldrich, president of the Mississippi Farm Bureau Federation and a cotton producer, Michigan City, Miss. Horace Hayden, president of the National Cotton Ginners Association, Oklahoma City, Okla., was named vice-chairman. The Department representative and executive secretary of the committee is Maurice R. Cooper, cotton specialist in the Bureau of Agricultural Economics.

Three Southern Cement Companies Consolidate

Consolidation of Florida Portland Cement Co., Signal Mountain Portland Cement Co. and Trinity Portland Cement Co. to form General Portland Cement Co. with headquarters at Chicago, Ill., was announced by Smith W. Storey, president of the new company. General Portland Cement Co. is one of the largest cement producers in the South owning and operating five cement manufacturing plants located at Tampa, Fla.; Chattanooga, Tenn.; Houston, Fort Worth and Dallas, Tex. These plants ship their products principally throughout the southern states with Houston and Tampa in position to serve the export market. The company manufactures and distributes a wide range of cements including, in addition to gray portland cements, white cements, high early strength cements, masonry cements and oil well cements.

Officers of the constituent divisions of the General Portland Cement Co. are as follows:

Frank M. Traynor, vice president, Florida Portland Cement Division, Tampa, Fla.; L. Hardwick Caldwell, vice president; I. F. Sisson, director of sales,

Below — Dress made from Aralac and rayon cloth



Signal Mountain Portland Cement Division, Chattanooga, Tenn.; J. F. Hayden, vice president, Trinity Portland Cement Division, Dallas, Tex.; Paul F. Keatinge, manager, White Cement Department, Trinity Portland Cement Division, Chicago, Ill.

South's Iron Ore Reviewed

Greater potentialities than are now being obtained from Alabama iron ores are forecast in a recent review by United States Bureau of Mines. Ore milling is lagging far behind mining developments, the review holds, and only a small portion of the ore mined is now being beneficiated through techniques in use. In view of the probability that the high-grade iron of the nation will be depleted within the next twenty to thirty years, the publication's suggestion that producers give immediate attention to larger-scale milling operations is timely.

Iron Shortage Predicted

"The American steel industry, destined to be the greatest supplier of steel for the world market for many years, faces dire shortages of actual iron ore within a period too short to be comfortable," C. M. White, president of Republic Steel Corp., told the American Institute of Mining and Metallurgical Engineers at its 75th annual meeting. Mr. White warned that the problem of benefiting America's vast reserves of potential ores must be faced. "It is unlikely any great new deposits of high-grade ore will be uncovered in either the United States or Western Europe," he said.

BAWI Lines Up New Industries

A total of 19 contracts for new industries is reported made in the first two weeks' operation of the New York office established by the Mississippi Agricultural & Industrial Board, which is staffed by representatives of rail, utility and gas companies operating in Mississippi. The office is located at 1001 Two Rector St., just around the corner from Wall St. The new establishment is one of the procedures adopted under the BAWI (Balance Agriculture with Industry) project.

Low Cost Spreader

An all time high in low cost spreader equipment makes its appearance this month with the introduction of the Yaun Spreader-Box. This all welded box can be bolted on the dump truck body, replacing the tail gate. Weight of the box is only about 105 pounds for the box that fits a six-foot wide dump truck body. Another feature is that there are no replacement parts, nor costly maintenance, says the manufacturer.

Operation is simple: The half circle opening can be regulated to any desired aperture up to six inches. The material, sand, gravel, shell, loose dirt, crushed stone and the like, then pours through this opening evenly aided by the force of gravity.

It can be operated either of two ways: (1) A driver plus a helper—the helper walking alongside the truck, or riding on the body, keeping the flow even by regulating the opening; (2) The driver sets the opening and keeps the flow regular by proper elevation of the truck body.

Clifton Yaun, vice-president and general manager, stated that he has put this piece of equipment on the market because of the outstanding success it has enjoyed on dump trucks for the State Department of Highways. Orders are being filled, however, it is necessary to give dump body dimensions and spreader width of box desired.

Southern Press Comments

Labor leaders have complained that they have not had a full inning in the hearings before congressional committees making a study of various bills which would affect the unions. But they have shown themselves so far as completely uncooperative. They object to every proposed legislative measure designed to cure the ills which have become glaring since the war. They refuse to offer any plan. They want to be left severely alone to do as they please.—Lexington (Ky.) Leader.

North Carolina has long faced manpower erosion as one of its major problems. It had been hoped that some progress would be recorded in more recent surveys. But the statement issued by Felix Grisette, director of the State Planning Board is not too encouraging.

Students of this area remember Dr. Howard Odum's "Southern Regions," and the by-product of that study, "Wasted Land," done by Gerald W. Johnson. The principal thesis of these studies is that North Carolina is giving away much more than she receives. There can be only one conclusion to such a process.

The study just announced covers the graduate students of the State's universities during the ten year period, 1930 to 1939. It shows that more than seventy-six per cent of students holding technical graduate degrees leave the State following graduation. Of all graduate students enrolled in the State, only forty-three per cent were residents of the State, and only eight per cent of the remaining non-residents decided to stay in North Carolina. Further, only forty-six per cent of the native sons stayed in North Carolina.

What can be done to remedy an increasingly bad situation? Mr. Grisette does not claim to have all of the answers. But he does not hesitate to point out that the reasons given by the graduates for leaving are that they can have better technical advantages at higher pay in other states. Those are important factors, and factors to which the State Planning Board, better than any existing agency, can address itself.

North Carolina is suffering severely from manpower erosion. This erosion must be stopped.—Durham (N. C.) Morning Herald.

The Russians think of democracy as government for the people, instead necessarily of and by them. One of the sayings of Lenin, for example, was: "How can one be a democrat and at the same time oppose the dictatorship of the proletariat?" But the dictatorship of the proletariat turns out to be the dictatorship of a tight bureaucracy. The determination of what is for the people, what is in their interest, is made by the bureaucracy, not by them. And, as it works out, of course, the interest really considered first is that of the bureaucracy.—Louisville (Ky.) Courier-Journal.

If the average investor is bewildered, that should not be surprising. He is face to face with a maze of economic complexities almost beyond parallel and on which no two experts seem able to agree.

The man who tries to figure out the financial future finds himself on shifting and shaky ground. The one thing about which he can be fairly sure is that there are no solid certainties any more. He is beset by predictions of inflation and recession, of falling prices, of labor trouble and labor peace.—Ashland (Ky.) Daily Independent.

There still is more freedom in America despite some of the defects that have developed in the American social and economic systems, than there is anywhere else at the present time. If it can be said that American democracy does not function as well as it should, the failure cannot be attributed to American democracy itself, or to the principles upon which it was founded, but to the shortcomings of human nature.—Beaumont (Tex.) Enterprise.

After the government-subsidized Export-Import bank had furnished the priming for the pump of international commerce, the business, it was hoped, would keep rolling of its own momentum. But government agencies, once established, are seldom unable to furnish the justification for the continuance. Pump priming failed to restore robust health to trade. War necessities did what the bank was unable to do, and foreign trade began to flourish during the late thirties. It is still abundant, thanks to heavy Federal expenditures for relief in Europe and Asia.—The Houston (Tex.) Post.

Federal economists have so frequently harped on the theme of a business recession in 1947 that some of them give the impression they are hopeful one will occur not only to justify their salaries, but as an excuse for governmental policies of a leftist character.—The Houston (Tex.) Post.

In the setup of some unions, industry-wide bargaining often becomes multiple-industry bargaining, bringing financial hardship, strikes or drastically increased prices to smaller industries not directly concerned with the labor problems of the larger.—St. Louis (Mo.) Globe-Democrat.

Continued warnings by conservation experts that the national supply of timber is dwindling far faster than it is being replaced are warnings we would be wise to heed. In the history of this country we have seen one natural resource after another go because of our failure to practice conservation measures early enough. Timber, if the figures the experts are giving us are true, seems one of the next on this list unless something more is done about it.—Savannah (Ga.) Morning News.

Decision of the United States supreme court, holding John L. Lewis guilty of contempt of court and fining him \$10,000 and his United Mine Workers union \$700,000, will in years to come mark the turning point of labor.

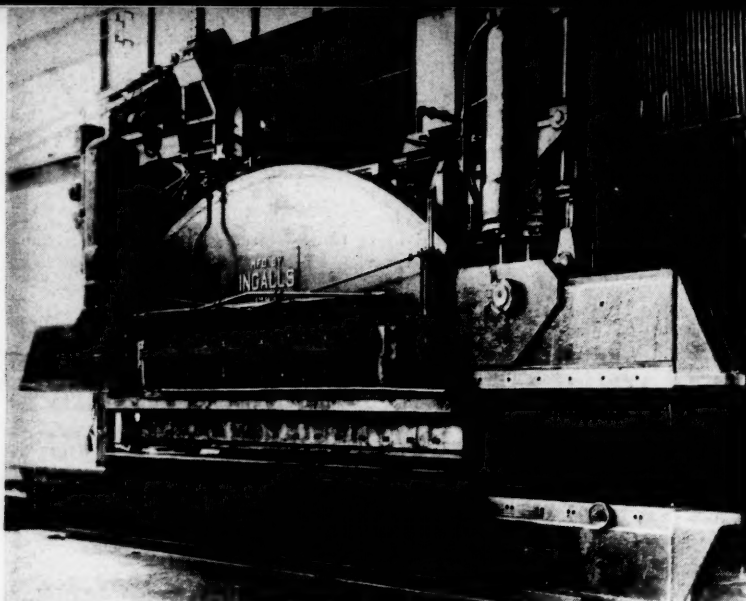
It is the point where the people of the United States, through their legal representatives in government, called a halt to the high-handed tactics of a dictatorial labor boss who didn't know when to quit.

The American people are tolerant and they like to see the under dog get a break. But when the under dog tries to rise up and bite the hand that has been assisting him, the people are through.—Pensacola (Fla.) Journal.

In every Southern community we hear the remark: "Our boys and girls are not interested in making their careers here at home but are going elsewhere where the opportunities are greater. Something should be done to keep our sons and daughters at home." We don't always follow this line of reasoning because we believe that there are just as many opportunities in the average Southern community as there are anywhere else in the world.—Troy (Ala.) Messenger.

Thousands of farmers in Louisiana are finding the luscious yam a means of better balanced farming. This fact was revealed in studies made by Julian C. Miller of Louisiana State University. He has shown that it is one of the most profitable uses for Louisiana land.

On land formerly used for producing 15 bushels of corn per acre, farmers now raise 300 pounds of yams per acre. This is the equivalent of 80 bushels of corn, which approximates the production in cattle-raising areas.—The Florida Times-Union (Jacksonville).



Above—Heavy duty steel press designed and manufactured by Ingalls Iron Works Company, Birmingham, Ala. Shapes up to 30 feet in length can be stamped in one operation at pressures up to 600 tons. Recent developments such as this one at the Birmingham plant make possible heavy jobs which could not previously be performed in the South.

Houston Oil Well Bits

(Continued from page 43)

Texas. With a 75-acre oil drilling equipment plant on the outskirts of Houston, Texas, and 5,200 employees, Hughes Tool has come a long way from its modest beginning in a 20 by 40-foot machine shop.

It was in 1906 that John Wynn, a drilling contractor in the Beaumont Field of Texas, was winding wire on a spool when he noticed that it was tilted and rubbing a groove in the wooden floor of his small shop. Wynn reasoned that similar action with a steel spool on the end of a drill pipe might penetrate hard rock.

Howard R. Hughes, father of the present noted aircraft designer-flyer, became interested in the Wynn theory of a rotary drill. Blessed with inventive ability and organization genius, the elder Hughes spent a couple of years experimenting with a new steel drill with two rotating sharp-tooth cones.

Veterans of those early Texas oil days recall the young inventor carrying his precious rock bit to the Goose Creek Field, carefully concealed in a burlap bag, of his dismissing the crew and attaching the rock bit to the end of the drill pipe. When it had been lowered out of sight, the crew returned to resume drilling. First tests were discouraging, but subsequent ones were successful.

In 1909, Hughes rented a 20 by 40-

foot corner of the Houston Car Wheel & Machinery Company to manufacture rock bits. From there on, the story is the typical American tale of organization and expansion. Hughes died in 1923 and his son, then only 18, took over active management of the company with permission of the Texas courts. The company by that time had become firmly established and the government estimated its value for tax purposes at \$650,000. Just about that time, oil production was undergoing its greatest expansion and Hughes Tool expanded with it. Today, a decade after expiration of the basic patents, Hughes Tool supplies about 70 per cent of the rock bits used in the United States and its products are exported to 50 foreign countries.

Although Hughes Tool makes tool joints for drill pipes, core bits to pick up samples of earth from great depths, and various valve fittings, the rock bit is the backbone of the business. Varying in size from 3¾ inches to more than 26 inches, the rock bit is a fine precision, if vicious looking, tool. It consists of a large collar to which are attached two or three rotating cones with closely placed sharp teeth. Manufacture of the three cone rock bit involves more than 230 operations.

With nearly 40 years of experience behind them, the Hughes people have developed certain types

of rock bits for certain types of work, but they maintain a large staff of metallurgists, and research engineers who continuously study new ideas and try them out on huge blocks of granite, dolomite and other rock formations trucked into their open-air laboratory.

Hughes rock bits have set records for deep well drilling for a number of years. They went down to 10,944 feet at Kettleman Hills, California, in 1933; to 11,377 feet at Kern County, California, in 1934; to 12,786 at Upton County, West Texas, in 1935; to 15,004 feet at Wasco, California, in 1938 and to more than 16,500 feet in Texas this year.

With today's oil search going deeper into the earth, the company's oil drill equipment is in greater demand than ever and foreign orders are running substantially ahead of prewar levels. Authority for the oil industry on hard rock drilling, the company's metallurgists, chemists and engineers are putting greater emphasis on cutting instruments which will operate at depths even greater than today's deep wells.

Mechanical Dehydration

(Continued from page 42)

cumference cause the potatoes to fall repeatedly through currents of hot gasses and air ranging from 100 to 500 degree Fahrenheit. The drum rotates and the potatoes gradually advance through the cylinder.

Potatoes are prepared for the dehydrator by brushing or washing; otherwise, dirt would be ground into the processed food, making a low quality feed. Culls, used for livestock feed are not peeled.

Hampered by war time restrictions, Beaird's was not able to release this pilot plant model to the public until about a year ago. Since then, approximately 150 units have been installed throughout the 14 potato growing states, 26 of which are now being operated in Arkansas, according to Hendrix Lackey, director of Arkansas Resources and Development Commission.

Low cost of the units, makes it possible for small groups of farmers, or large scale planters to install their own plants and maintain them at a profit, taking waste farm produce and converting it into stock

(Continued on page 58)

how

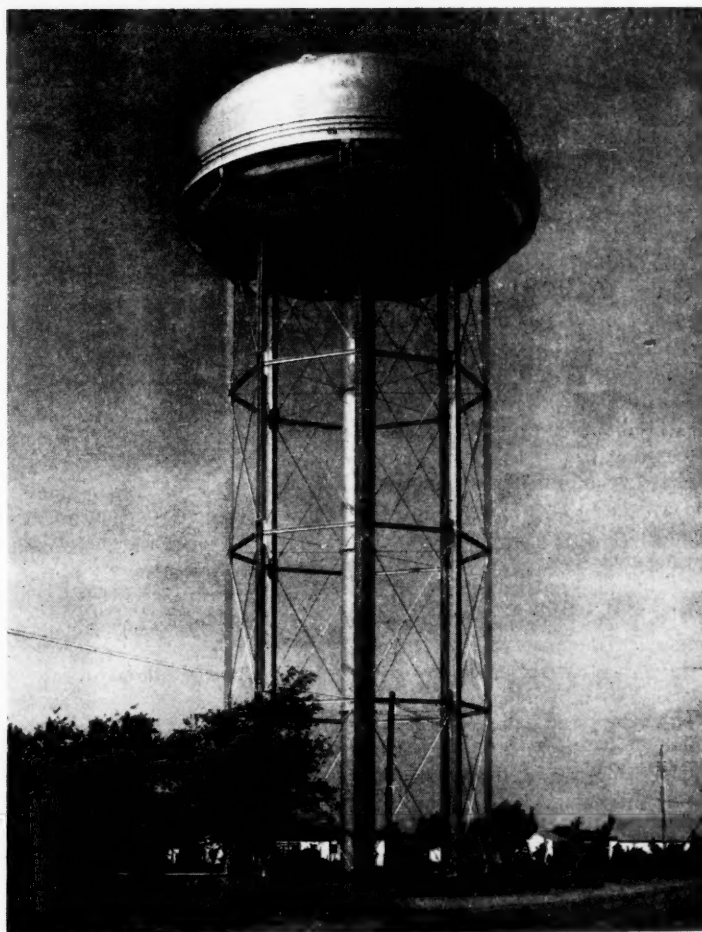
a city benefits
from

HORTON ELEVATED WATER STORAGE...

The installation of an elevated water storage tank is considered by many engineers as the most important step in modernizing a municipal water supply system. To support this thinking, a few of the benefits (taken from actual reports) that have been obtained by cities with the aid of *Horton* elevated water storage tanks—are listed below.

- More uniform water pressures throughout the distribution system.
- More dependable supply of water for fire protection.
- Lower insurance rating for the city.
- Lower pumping costs.
- Provision for pumping during off-peak periods.
- Adequate pressure during temporary power failure.

The Horton elevated tank shown at the right holds 500,000 gals. and is 112 ft. to bottom. It was recently erected at Odessa, Texas. We build elevated steel tanks for municipal service in capacities up to 2,000,000 gals. and for industrial use in all standard sizes to meet requirements of automatic sprinkler systems and general water service. Write our nearest office for quotations.



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San Francisco 111240-22 Battery Street Building
Philadelphia 31619—1700 Walnut Street Building
Los Angeles 141417 Wm. Fox Building
Havana402 Abreu Building
Detroit 261510 Lafayette Building

Plants in BIRMINGHAM, CHICAGO and GREENVILLE, PENNSYLVANIA

Atomic Power Pile Project Progresses at Oak Ridge

(Continued from page 35)

project will be based on preliminary designs and suggestions of Dr. Far-
rington Daniels, of the University
of Wisconsin.

Leading manufacturers of the
country are providing the scientific
workers for the development. These
include the Allis-Chalmers Manu-
facturing Co., Babcock & Wilcox Co.,
Combustion Engineering Co., Fos-
ter-Wheeler Corp., Wright Aeronau-
tical Corp., Northrop Aircraft Corp.,
and National Carbon Co., who with
several educational institutions are
represented on either the working
or consulting staff.

Technical problems are complex.
Officials emphasize that atomic or
nuclear energy does not involve en-
tirely new methods of power gen-
eration as did the steam engine. It
is a new fuel to be used within the
framework of present day power
generating systems. Current work
is to be concentrated on adapting
present power producing techniques
and equipment.

There is a remote possibility that
in the future some of the energy
available within the atom may be
released directly through a medium
other than a heat engine. Such a de-
vice is not now known. No element
of current power plants can be
omitted when nuclear energy is used
to replace present forms of fuel.
Fuel handling equipment, however,
may be greatly reduced and in some
cases omitted entirely.

The impression that use of power
generated from nuclear energy had
been solved with creation of the
atomic bomb is erroneous say
atomic development scientists. The
bomb and a power pile are vastly
different problems. The bomb was a
"one-shot" device. Its objective was
an explosion and consequent de-
struction. A stationary power pile
must be designed to last for many
years.

One feature of the stationary
power pile must be the ability to
start and stop quickly, with contin-
uous precision control. Its design
must incorporate features to prevent
injury to personnel. The designer of
an atomic power unit travels a prac-
tically uncharted course. He has
little data to guide him and must

feel his way precariously until tests
show the perfection of his design.

Designers break the problem down
into four categories—construction
materials, heat transfer medium,
operating and auxiliary equipment
and safety. The materials must meet
requirements of power production
and must have the added quality of
withstanding neutron bombard-
ment. Metals used must possess
strength, resistance to deformation
and high temperatures.

Much research and investigation
on the heat transfer medium must
be done. Ordinary water, heavy
water, gases or other liquids could
theoretically be used to convey heat
from the power pile to the power
plant. Several liquid metals are be-
ing studied for the purpose, al-
though little is known of their prop-
erties from a nuclear and corrosive
viewpoint. Design of the equipment
must be such that no trouble oc-
cur during operation. It must not
become radioactive during per-
formance of the atomic furnace.

Protection of workers against ra-
dioactivity is another major prob-
lem as this persists long after the
pile is shut down. The radioactivity
emanating from a power pile is
equivalent to that from tons of
radium. Thick shields are required
for piles of relatively small size.
The difficulty is magnified many
times in larger plant design.

Cost of a nuclear power plant
would approximate two and one-half
times that of a coal power plant of
the same size. A project of 75,000
kilowatt capacity would involve an
expenditure of about \$25,000,000.
Assuming that the plant would op-
erate at 100 per cent capacity, the
operating cost of the plant would
be approximately .8 cents per kilo-
watt-hour.

A coal plant of comparable size
would cost about \$10,000,000 with
operating costs depending on the
price of coal. Operating costs of a
coal power plant were totaled at .65
cents per kilowatt-hour in the esti-
mate figures. Costs of both types
of plants would become equalized
if coal reached \$10 a ton. The esti-
mates were all made on the assump-
tion of 100 per cent operation and
a three per cent interest charge.

Dr. Charles A. Thomas, Monsanto
vice president who directed a cost
report by Clinton Laboratory and
Monsanto experts, says lower costs
for atomic power plants are de-
pendent on successful solution of
technical, operating, maintenance
and labor costs and "it seems rea-
sonable to expect that the future
development of nuclear power will
result in the standardization of de-
sign and construction and a mate-
rial reduction in the investment and
operating costs."

Nuclear power plants may mean
greater decentralization of industry.
will prove an aid to industrial de-
velopment of isolated parts of the
world and may be desirable as op-
erating or standby units in existing
power systems. More economical in-
dustrial combinations should de-
velop, in Doctor Thomas' opinion.

Scientists and engineers see a
comparatively small, standardized
nuclear power plant. If this predic-
tion is realized, such power plants
can be placed at strategic points in
established utility systems, as the
Monsanto scientist states, with
greatly reduced power transmission
costs.

He predicts atomic power will be
supplementary to conventional pow-
er production. "It is not altogether
a case of nuclear power versus coal,
gas, oil or water power because the
nuclear power plant has advantages
and fields of application not open
to other types of power producing
plants." (S. A. L.)

Baltimore—Second Foreign Trade Port

Baltimore ranked as the second Ameri-
can port in the shipping weight of exports
and in total foreign trade volume for the
first ten months of 1946, according to a
Bureau of the Census statement. This re-
port shows that Baltimore handled 25.7
billion pounds (11,493,036 long tons) or
11.3 per cent of the total volume of U. S.
overseas trade during that period. This
compared with 17.1 per cent (17,443,840
long tons) for New York; 8.7 per cent
(8,886,116 long tons) for Philadelphia;
4.1 per cent (4,211,474 long tons) for New
Orleans; 3.6 per cent for Houston, 2.9
per cent for Norfolk and 2.7 per cent for Gal-
veston. Baltimore, ranking as second port
in tonnage of exports during the ten-
month period with 16.1 billion pounds
(7,199,732 long tons), followed New
York's 19.5 billion pounds (8,727,411 long
tons).



Courtesy

Some materials for new telephone service are still scarce . . . but reasonableness, courtesy and kindness we can provide in full quantity, for we make them ourselves on the spot. "The Voice With a Smile" keeps on being one of the nice things about telephone service.

BELL TELEPHONE SYSTEM



INDUSTRIAL AWARDS MORE THAN ONE-THIRD OF QUARTER'S TOTAL

(Continued from page 31)

Silk mill, Taylorsville, N. C., \$1,000,000, Hadley Mills Co.
 Paint and lacquer plant, Atlanta, Ga., \$1,000,000, Sherwin-Williams Co.
 Transmission line, Norfolk, Ark., \$819,000, Southwestern Power Administration.
 Drumming plant, Baton Rouge, La., \$750,000, Ethyl Corp.
 Ingot plant, Houston, Texas, \$690,000, Sheffield Steel Corp.
 Power plant foundation, Albany, Ga., \$650,000, Georgia Power Co.
 Power plant building, Cliffside, N. C., \$595,000, Duke Power Co.
 Power plant building addition, Miami, Fla., \$530,000, Florida Power & Light Co.
 Warehouse, Houston, Texas, \$500,000, Lighting Express Co.
 Toy factory addition, Glen Dale, W. Va., \$500,000, Louis Marx Co.
 Warehouse, Chamblee, Ga., \$500,000, Westinghouse Electric Corp.
 Gas system, Hogansville, Ga., \$500,000, City of Hogansville.
 Telephone building, Towson, Md., \$500,000, Chesapeake & Potomac Telephone Co.
 Plant improvements, Memphis, Tenn., \$500,000, Central Soya Co., Inc.
 Central dial office, Charleston, S. C., \$475,000, Southern Bell Telephone and Telegraph Co.
 Fluorescent light fixture plant, Tupelo, Miss., \$350,000, Daybrite Co.
 Garage, New Orleans, La., \$350,000, Robert S. Maestri.
 Bakery addition, Houston, Texas, \$300,000, Mrs. Baird's Baking Co.
 Laundry, Chattanooga, Tenn., \$250,000, Chattanooga Linen Service.
 Dairy plant, Miami, Fla., \$250,000, June Dairies.
 Manufacturing building, Laurel, Miss., \$245,000, Woodall Industries, Inc.
 Clothing manufacturing plant, Vernon, Texas, \$235,000, Vernon Industrial Association, Inc.
 Steel plant buildings, Sparrows Point, Md., \$231,000, Bethlehem Steel Co.
 Sulphur plant additions, Grande Ecaille, La., \$219,000, Freeport Sulphur Co.
 Warehouse and equipment, Bay City, Texas, \$200,000, Independent Rice Warehouse, Inc.
 Planing mill, Jericho, S. C., \$200,000, Kingstreet Lumber Co.
 Automotive building, Columbus, Ga., \$197,000, Strickland Motor Co.
 Cotton mill addition, Siluria, Ala., \$175,000, Buck Creek Cotton Mills.
 Creosote plant, Brookhaven, Miss., \$150,000, Mississippi Wood Preserving Co.
 Venetian blind plant, North Little Rock, Ark., \$150,000, Russell & Co.
 Quick freeze plant, Dade County, Fla., \$150,000, Pineapple Plantations.
 Dairy, Hendersonville, N. C., \$135,000, Kalmia Dairy.
 Garment factory, Forest, Miss., \$135,000, City of Forest.

Gas transmission and distribution system, Arnaudville, La., \$126,000, J. W. Caruth Pipe Line Corp.
 Milk processing plant and ice cream factory, Montgomery, Ala., \$125,000, Dairy Producers.
 Plant, Houston, Texas, \$125,000, South Texas Equipment Co.
 Bed manufacturing plant, Atlanta, Ga., \$120,000, Simmons Co.
 Storage tanks, Charleston, S. C., \$120,000, Coastal Terminals, Inc.
 Expansion, Fort Worth, Texas, \$110,000, Pangburn Candy Co.
 Peanut processing and packing plant, Cary, N. C., \$102,500, Washington Food Co.
 Expansion, Chattanooga, Tenn., \$100,000, Turnbull Cone and Machine Co.
 Addition and ice cream plant, Houston, Texas, \$100,000, Sanitary Farms Dairies, Inc.
 Produce warehouse, Pamlico, S. C., \$100,000, Pamlico Warehouse, Inc.
 Expansion, Bedford, Va., Virginia Rubatex division of Great American Industries.
 Power project, Saluda River near Columbia, S. C., South Carolina Electric & Gas Co.

Sulphur Output at Peak

Production of sulphur by Freeport Sulphur Company, Freeport, Tex., in 1946 was the greatest in the company's history, Langbourne M. Williams, Jr., President, announced in the annual report to stockholders. Shipments and sales were slightly lower than the record highs of 1945, according to the report, but domestic sales reached a new peak, substantially exceeding even the 1941-45 wartime average. Net earnings for 1946, as reported in a previous preliminary statement, amounted to \$3,753,316, or \$4.69 per share on the 800,000 shares of common stock, as compared with \$3,349,790, or \$4.19 per share, in 1945. The record production was achieved through a further increase at the company's Grande Ecaille mine in Louisiana.

Roads, Streets, Bridges

	March, 1947	Contracts Awarded	Contracts First Three Months 1947
Alabama	\$1,920,000	\$1,959,000	\$1,920,000
Arkansas	.....	.....	.....
Dist. of Col.	464,000	110,000	908,000
Florida	73,000	2,075,000	4,209,000
Georgia	.....	.....	.....
Kentucky	326,000	1,800,000	326,000
Louisiana	809,000	800,000	1,812,000
Maryland	969,000	1,520,000	1,831,000
Mississippi	2,709,000	313,000	4,987,000
Missouri	3,153,000	2,850,000	3,183,000
N. Carolina	1,408,000	245,000	5,729,000
Oklahoma	181,000	.....	3,252,000
S. Carolina	2,754,000	1,030,000	4,647,000
Tennessee	.....	2,202,000	351,000
Texas	6,834,000	6,074,000	19,003,000
Virginia	.....	.....	1,796,000
W. Virginia	318,000	350,000	2,780,000
TOTAL	\$21,909,000	\$21,588,000	\$56,834,000

Private Building

	March, 1947	Contracts Awarded	Contracts First Three Months 1947
Alabama	\$278,000	\$3,177,000	\$3,177,000
Arkansas	30,000	230,000	230,000
Dist. of Col.	112,000	516,000	516,000
Florida	5,143,000	2,891,000	12,481,000
Georgia	2,048,000	4,659,000	6,160,000
Kentucky	.....	.....	.....
Louisiana	433,000	1,378,000	5,758,000
Maryland	2,187,000	407,000	9,753,000
Mississippi	70,000	1,825,000	743,000
Missouri	.....	.....	270,000
N. Carolina	118,000	161,000	1,395,000
Oklahoma	.....	120,000	.....
S. Carolina	111,000	400,000	224,000
Tennessee	4,680,000	6,125,000	5,580,000
Texas	4,511,000	6,181,000	12,168,000
Virginia	50,000	5,680,000	1,346,000
W. Virginia	.....	.....	31,000
TOTAL	\$19,811,000	\$29,876,000	\$60,372,000

Industrial

	March, 1947	Contracts Awarded	Contracts First Three Months 1947
Alabama	\$322,000	\$177,000	\$2,852,000
Arkansas	30,000	506,000	430,000
Dist. of Col.	.....	15,000	25,000
Florida	820,000	1,038,000	3,557,000
Georgia	2,026,000	3,843,000	51,180,000
Kentucky	500,000	2,068,000	550,000
Louisiana	2,043,000	6,048,000	6,011,000
Maryland	1,102,000	4,980,000	3,864,000
Mississippi	706,000	386,000	1,687,000
Missouri	174,000	5,404,000	2,277,000
N. Carolina	180,000	5,800,000	1,022,000
Oklahoma	1,300,000	193,000	1,543,000
S. Carolina	240,000	6,515,000	6,610,000
Tennessee	355,000	620,000	1,665,000
Texas	7,405,000	18,043,000	42,602,000
Virginia	35,000	652,000	1,099,000
W. Virginia	50,000	1,500,000	425,000
TOTAL	\$17,289,000	\$58,418,000	\$124,359,000

Public Building

	March, 1947	Contracts Awarded	Contracts First Three Months 1947
Alabama	\$140,000	\$2,472,000	\$2,212,000
Arkansas	106,000	760,000	422,000
Dist. of Col.	22,000	1,756,000	3,674,000
Florida	4,402,000	9,315,000	5,980,000
Georgia	1,815,000	2,952,000	3,521,000
Kentucky	.....	3,811,000	42,000
Louisiana	365,000	1,995,000	3,134,000
Maryland	1,486,000	11,369,000	5,198,000
Mississippi	596,000	6,420,000	1,474,000
Missouri	.....	10,945,000	134,000
N. Carolina	144,000	2,519,000	854,000
Oklahoma	588,000	1,434,000	1,671,000
S. Carolina	.....	504,000	22,000
Tennessee	.....	17,835,000	1,760,000
Texas	4,242,000	20,843,000	11,908,000
Virginia	2,122,000	1,908,000	3,843,000
W. Virginia	.....	.....	817,000
TOTAL	\$16,119,000	\$96,838,000	\$46,686,000

Public Engineering

	March, 1947	Contracts Awarded	Contracts First Three Months 1947
Alabama	\$906,000	\$1,746,000	\$5,755,000
Arkansas	3,177,000	2,233,000	3,761,000
Dist. of Col.	1,090,000	150,000	1,296,000
Florida	577,000	2,263,000	2,327,000
Georgia	2,110,000	2,089,000	3,055,000
Kentucky	.....	964,000	.....
Louisiana	960,000	3,360,000	4,062,000
Maryland	456,000	321,000	984,000
Mississippi	61,000	2,569,000	15,050,000
Missouri	.....	290,000	228,000
N. Carolina	509,000	4,170,000	980,000
Oklahoma	50,000	1,256,000	50,000
S. Carolina	73,000	795,000	706,000
Tennessee	390,000	2,595,000	809,000
Texas	2,302,000	15,849,000	12,698,000
Virginia	2,618,000	1,575,000	2,740,000
W. Virginia	.....	50,000	1,500,000
TOTAL	\$15,249,000	\$42,445,000	\$52,821,000

Two Good Reasons

Two principal reasons why such a large number of Southern manufacturers use the facilities of First and Merchants are:

1. First and Merchants can make single loans as high as \$600,000 at prevailing rates of interest.
2. First and Merchants officers are in close and daily contact with manufacturing activities throughout the South.

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RESOURCES 190 MILLION DOLLARS.

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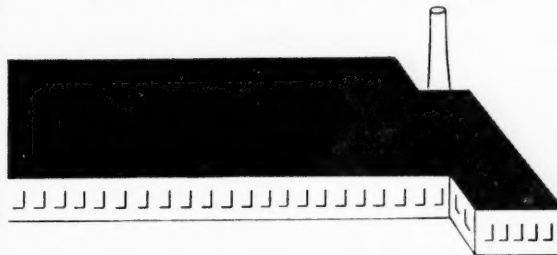
While cosmopolitan in its general appeal, and modern up to this moment in its equipment, there is a peculiar flavor of The Old South here which Southerners are quick to note and appreciate. They feel at home and come back to us again and again.

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The Southern Hotel

BALTIMORE 2

at WORK



WITH INDUSTRY

How vital to your business to have the goodwill and support of the entire community—wherever you operate. The Industrial Service Bureau of Columbia, S. C., gives real and continuing help to enterprises seeking locations in the great Central South Carolina development region. If raw material and labor shortages—or other adverse circumstances—are affecting your operation, look to the Columbia area where resources, climate, power supply and all other factors create major opportunities for increased profits.

PLANT SITES

Plant sites on three major railroads, easy access to raw materials and the nation's leading markets, low building and operating costs, a large supply of native-born, easily-trained labor—all these are yours in Columbia. We will gladly compile and submit for your study, full and detailed data on sites, land costs, facilities, etc., without obligation to you.

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Specialized, confidential service to industrialists. Write to Missouri State Division of Resources and Development, Jefferson City, Mo., Dept. T63.

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Mechanical Dehydration

(Continued from page 52)

feed. Operational expense is negligible and a plant personnel of three is sufficient. The units are fired successfully by natural gas, butane gas, fuel and distillate oils.

Research seems to have revolutionized all previous ideas and practices in hay and grain production, harvesting and feeding. Tests are being made to determine the most opportune time for processing grasses. The south can grow grasses and hay but because of high humidity and frequent rains, it is difficult to cure it at the proper stage. Dehydration by machinery solves this problem.

In addition to sweet potatoes, processing experiments are advancing on Irish potatoes, clover, oats, beans, chicory roots, sugar cane tops, sugar cane bagasse. Technical runs will be furthered with alfalfa, hay, potato vines, Kudzu vines and other cover and forage crops.

Records show that dehydrated sweet potatoes are being utilized in manufacture of ice cream, and a new chemurgy development, using dehydrators, is being pioneered jointly by the Quaker Oats company and the American Dairies. Lemon juice is being dehydrated at Universal Colloids Company, McAllen, Texas, and pectin is extracted from grape fruit peel. Dried tomato flakes go into commercial and domestic soups.

Norge Precision Plant

(Continued from page 37)

facilities permitted expansion into gas and electric range production bearing the Norge nameplate. First output of Norge ranges was in 1935. Production of the Detroit Vapor Stove line of "White Star" ranges was continued.

The Norge predecessor, the Detroit Gear and Machine Co., was founded in 1910 to supply parts to the growing automobile industry. Borg-Warner Corp., now the parent organization, has 25 divisions for domestic and export production. Among these are Calumet Steel, Detroit Car, Long Manufacturing, McCulloch Engineering, Ingersoll Steel and Disc, Morse Chain and Warner Gear.

Associated as vice president and assistant general manager with Mr. Blood in the Norge division is Roy

W. Gifford, authority in international trade and chairman of the board of Borg-Warner International Corp. Mr. Gifford joined Borg-Warner in 1931. Two years later he organized the Norge export department. He became Norge and Detroit Gear vice president and assistant general manager in 1940. (S. A. L.)

Brushes from Milk

(Continued from page 33)

it is believed that other protein materials might also be used for this purpose. There are a number of protein materials derived from agricultural products that have characteristics similar to those found in case-



Louis B. Howard

in and further research may add to the list of artificial fibers from agricultural commodities. As a matter of fact three promising new agricultural fibers are already in pilot-plant production in the Bureau's Regional Research Laboratories.

Potomac Soundings

(Continued from page 12)

ranking Communist won personal appointment to semi-public function in wartime at the hands of the late President Roosevelt.

Another facet of Communism's international network in America came to light in the citation of Gerhart Eisler before the House Committee on Un-American Activities on February 6, 1947. A long report submitted by J. Edward Hoover, director of the FBI, identified Eisler as the chief of the Comintern staff in America. The Comintern is the Moscow organization which directs the world revolutionary movement through its own hand-picked representatives in each nation scheduled for systematic infiltration. Under the name of Edwards, Eisler was the Comintern's official ambassador to the Communist Party in the U. S. A., from 1933 forward, "by virtue of which posi-

tion he was responsible for and instrumental in the determination of American Communist policy, and the control and direction of American Communist operations."

In this position he was the individual who received the official party-line orders from Moscow and transmitted them to the Communist executive committee in New York for application.

Yet, at a deportation hearing on Ellis Island on June 14, 1941, Eisler denied under oath "that he was or had been in the past a member of the Communist Party, denied membership in any Communist organization, and stated that he had never been sympathetic to the Communist cause."

All Eisler's articles in the official Communist publications of America appeared under the name of Hans Berger.

His FBI file discloses him to have been in constant contact with many Communists known to have been involved in wartime espionage. He was also in intimate daily touch with the Canadian espionage operations which sought to steal the atomic secret from the U. S. by way of Moscow's embassy in Ottawa.

Eisler now is awaiting trial in Washington for contempt of Congress, following his refusal to answer questions put by the House Committee on Un-American Activities.

Visitors to Moscow

In the *Congressional Record* for October 22, 1945, we find the official CIO account of a visit to Moscow by a delegation of CIO leaders as guests of Vassili Kuznetsov, chairman of the Soviet Labor Council, with a view to promoting "formation of an American-Soviet trade union committee . . . to facilitate establishment of close contact between American and Soviet working classes."

This proposal, the official CIO report relates, was accepted enthusiastically by the American delegation.

In his address endorsing the proposal, Mr. Joseph Curran, of New York, a national vice-president of the CIO and president of the National Maritime Union, declared: "I am told to assure you that the CIO will always work hand-in-hand with the Soviet trade unions."

The next speaker was James B. Carey, secretary-treasurer of the CIO, who said in part: "When I visit your plants I feel that I am in our own American establishments. When I speak here I feel as if I am speaking in my own country. All this bespeaks the fact that we and you have one mind, the same aspirations, the same community of interests."

UNRRA Supplies Allocated and Distributed by Communists

Communist sympathizers also had a large part in the day-to-day allocation of relief supplies distributed from Washington through the United Nations Relief and Rehabilitation Administration.

Because UNRRA now is in process of liquidation, the whole story of Communist infiltration in that agency probably will never be revealed fully in the public record. We do know, however, that Russia and her puppet nations received the lion's share of the \$3-billion in postwar relief distributed in Europe. It was this aid from America which established the authority of the Tito dictatorship in Yugoslavia. And during the distribution of that aid two agents of the Russian government held key places in the UNRRA organization. UNRRA reports show

(Continued on page 60)

AMERICA PAYS HUGE SUMS FOR CRIMES OF CARELESSNESS

IN 1946, the American public lost approximately \$600,000,000 from fires. Yes, we say LOST, because that was the value of the property destroyed. True, the fire insurance companies reimbursed them for their losses, but much of the actual property can never be replaced. The three greatest causes of these fires were

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Potomac Soundings

(Continued from page 39)

that roughly 75 per cent of all funds spent were contributed by the United States, and about 72 per cent of all the supplies shipped were from U. S. ports.

Between March 28, 1944, and July 1, 1946, UNRRA shipped \$315,778,000 in relief and reconstruction supplies to Yugoslavia. During this interval, the Deputy Director of UNRRA's Industrial Rehabilitation Division in Washington, was Victor I. Rodnov, a Russian subject formerly connected with Amtorg, the official Soviet foreign trade agency in New York.

The chief of the UNRRA Mission to Yugoslavia during these months was Maj. General M. A. Sergeichic, formerly quartermaster general of the Red Army in Persia.

Everything assigned to Yugoslavia was allocated and approved by Communist Rodnov in Washington, and then was distributed by Communist Sergeichic in Yugoslavia. That's what made Tito tick.

Our shipments to Tito's land through UNRRA made a total of 2,200,000 tons, including 1,100,000 tons of food, 77,000 tons of clothing, 80,000 tons of farm machinery, seed and livestock, 200,000 tons of industrial machinery, locomotives, trucks, construction equipment and road machinery, plus 7,132 tons of medical supplies.

In addition, the U. S. contributed to Yugoslavia directly, on its own account, \$32,000,000 in surplus military equipment remaining in Europe after V-E Day.

These were the sinews of Tito's trium-

phant march to reconstruction. Without America's aid distributed only through Communist channels, Tito could never have fastened a Communist dictatorship upon the war-weary people of Yugoslavia. But so long as all relief flowed through Communist organizations, the shattered and hungry nation was driven relentlessly into the arms of international Communism.

Now UNRRA is folding, and the United Nations is not yet ready to take over the real work of policing the peace of the world. So the U. S. is called upon to appropriate another \$400,000,000 for direct assistance to Greece and Turkey—to help repel the Communist aggression of Russia and her powerful made-in-America satellite, Yugoslavia.

Such are the first fruits of Communist infiltration in official Washington during the last decade.

Fertilizer Dearth

(Continued from page 40)

mand. This compared with 1935-'39 average production of 7,300,000 tons.

In 1946, North Carolina consumed 1,500,000 tons, compared with 1-100,000 tons in 1939. South Carolina was a close second. Strangely, Wisconsin consumed 300,000 tons in 1946, compared with 42,000 tons in 1939.

Because cotton and tobacco, of all

crops, most urgently require commercial plant food, the short supply most heavily hits the South.

Electrolytic Chemicals

(Continued from page 39)

ductive capacity. It was purchased by Heyden from the War Assets Administration September 24, 1946.

Under the direction of C. J. Adams, plant manager, local personnel was recruited and transfer of the plant from standby to operating condition was begun immediately.

By November 16, the necessary equipment had been overhauled and sufficient raw materials obtained to begin production. The base raw material is rock salt of unusual purity (about 99.9%) obtained from mines in Louisiana and barged up the Mississippi in 600-ton loads.

Stated simply, the process used involves placing the salt in solution, purification of the resulting brine, and breakdown of the brine by electrolysis. This breakdown results in chlorine, liquid caustic, with hydrogen being given off as a gas.

(Continued on page 62)



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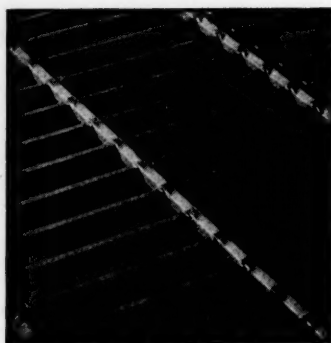
Electrolytic Chemical Plant

(Continued from page 60)

These products, with the exception of the hydrogen, are being used

primarily for the production of other chemicals, although chlorine has wide general uses as a bleaching

agent, for water purification, etc. The hydrogen is being sold locally for the hydrogenation of vegetable oils, converting them into cooking oils. However, with the addition of the chlorinated benzol products, much of the chlorine turned out at Memphis will be utilized for that purpose.



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Textile Manufacturing, South's Second Industry

(Continued from page 29)

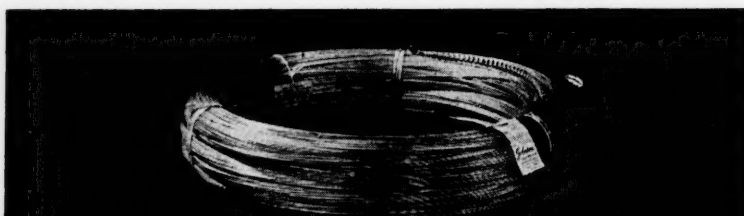
Outstanding textile development took place in eleven of the sixteen southern states. South Carolina headed the list with 53 sizable plants costing in all \$12,408,000. Of these, 47 were designed for spinning and weaving cotton; two were for combing, drying and cleaning fibers of all kinds; four were set up for rayon fabrics.

North Carolina, leader that it long has been in the textile industry, could not be found far behind. Forty new plants, costing \$11,048,000 were built in this state during the war, which together with other establishments put in before and after the period of W.P.B. authority, served to bring its total number of textile plants to 765, more than twice as many as any other state in the nation. Among North Carolina's new establishments, were two woolen mills, apparently the only such added to the textile industry in the South. There were also two plants set up for rayon utilization. The remaining 36 were devoted to cotton manufacture.

Georgia, ranking high for a good many years in textile output, saw 29 new plants added to its textile facilities. Total textile plant investment in that state was \$8,448,000. An interesting addition in Alabama was a plant to produce asbestos fabrics. This establishment alone cost \$533,000. Others were 22 cotton, five rayon and one nylon plant.

Virginia had 12 additions to its aggregate textile plant. Investment in these totaled \$5,816,000. Augmenting these, however, was a cellulose plant established to produce

(Continued on page 64)



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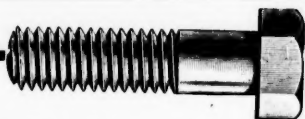
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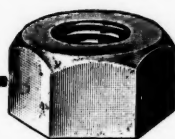


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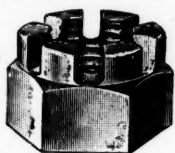
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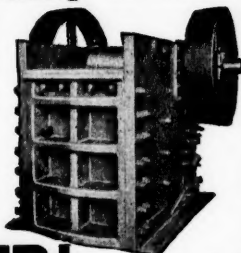
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Textile Manufacturing Second in Southern States

(Continued from page 62)

basic rayon materials. The cost of this plant in itself topped the investment of the new fabricating plants. This one plant cost \$10,752,000. Virginia's new textile plants were distributed among cotton, rayon and nylon, five, five, and two respectively.

Alabama and Tennessee enjoyed eight additions each, the total new investment for each state respectively being \$6,073,000 and \$4,644,000. Six of Alabama's new plants were for cotton spinning and weaving, one for fiber combing, drying and cleaning, one for rayon yarn and fabric. Tennessee's additions were divided between five for cotton and three for rayon.

Texas added five mills, all for cotton. Total investment was \$274,000. For a number of years, Texas has experienced steady growth in its relatively young cotton fabricating industry. Contemplators of this

progress are tempted to wonder why Texans, in the splendid development of their industrial empire, should have put all their textile investment into cotton facilities. The state outranks any other by the score of two to one in production of wool and mohair. What an excellent opportunity this abundance of home grown raw material would seem to hold out for capital invested in woolen manufactures. In the nation at large there are something over seven hundred establishments engaged in producing woolen and worsted goods. Apparently not one of these is to be found in the greatest wool-producing state of them all. Texas has, however, developed a number of apparel factories that utilize woolen fabrics as their base material. Three in Texas have an immediate market place for woolen fabrics that somewhere are processed from Texas wool. This, however, is but one of the many frontiers still left in the South for ex-

ploration and development. The same philosophy could be applied to a number of other Southern products and other Southern localities.

Making up the other four states contributing to textile progress in the South were: West Virginia, five plants, two for cotton, one for rayon, totaling \$2,919,000; Mississippi, two for cotton, \$56,000; Maryland, one for cotton, \$240,000; and Kentucky, one for hemp preparation and fabrication into rope, \$112,000.

While the textile industry in the South is mature, it is far from its peak. When the returns are in for 1946, they may be expected to top those for 1945. Barring undue business recession ensuing years should see similar increases. The star of cotton itself is far from its ultimate ascendancy, and the wonderful discoveries made, and being made, in synthetic fibers, leaves open to the textile industry a field that is practically illimitable in extent.

South's Marketing Problem

(Continued from page 34)

cess or failure of the undertaking.

A fourth type of expansion in the Southern market should come through production and sale of goods now imported from other areas. Studies indicate that a number of industries classified in the Census of Manufacturers are not represented in the South in sufficient number to supply Southern consumer demand. Most of these deficient products are producible in the South as well or better than in other sections. Without marketing re-


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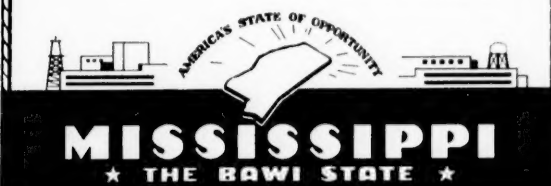


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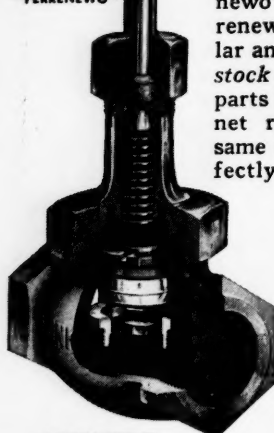
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Fig. 16
Bronze Regular
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Fig. 16-P
Bronze Plug Type
"RENEWO"

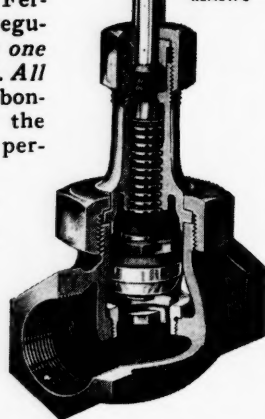
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South's Marketing Problem

(Continued from page 64)

search, however, new industry developed to fill the deficiency could not expect to reap full benefit.

A fifth type of industrial expansion that should take place in the South would bend its efforts toward producing more finely finished goods, commodities completely finished for consumer use. Yet, if this finished manufacturing is to be performed in the South, so also must the sales and advertising policies to implement it be rounded out in the same region. Thereby the South and its enterprisers would be enabled to enjoy profits all the way from the raw material producer to the final distributor into consumer hands.

The South has gone a long way toward recovering its rightful sphere in the productive life of the nation. The urge now is to so provide that failure in its distributive functions shall not mar or retard future opportunity.

Solvent Used to Extract Cotton Oil

(Continued from page 41)

The recently burned West Tennessee Soya Mill at Tiptonville, Tenn. is being rebuilt to use the solvent process, which also will be employed in the new Buckeye plant at New Madrid, Mo.

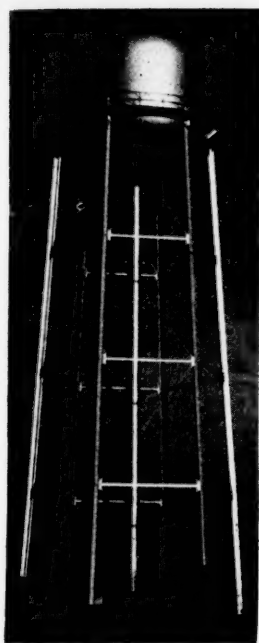
Delta's plant has a daily capacity of 200 tons of cottonseed. The unit is patterned after a new application of the Allis-Chalmers process developed by a pilot plant previously installed.

Operators of the new facilities expect a yield of 45 extra pounds of oil per ton of seed, as compared with the recovery by the hydraulic method. Estimates place the added profit at \$11 per ton, based on prevailing prices of oil and meal.

The expected additional revenue by use of the solvent method of extraction is from \$20,000,000 to \$25,000,000 in the cotton growing states. Much of this money is seen finding its way to the farmer who will eventually receive more for his seed.

Economic advantages cited by the manufacturers of the equipment emphasize the automatic extraction procedure which requires only two

(Continued on page 68)



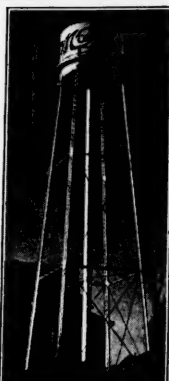
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WELL WATER SYSTEMS VERTICAL TURBINE PUMPS

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Cotton Oil Extraction Uses Solvent

(Continued from page 66)

men for each shift to operate the new solvent extraction machinery.

Quality tests on products from pilot plant operations are said to reveal satisfactory results, with refineries reporting the oil to be acceptable for manufacture of hydrogenated shortenings, margarine, salads, cooking oils and other products.

The Delta plant at Wilson includes nine buildings erected on the R. E. Lee Wilson estate property. They are designed and located to minimize explosion danger. No solid floors or walls are used in the buildings where removal of the oil is done. Storage is provided for 36,000 tons of seed, with 25 per cent more space to be added.

Ultimate goal of the Wilson plant is to have residents of Mississippi County, where the plant is located, to use margarine and shortening made locally from cotton grown on farms in that section.

The process at the Delta plant

first involves cleaning the seed, weighing, delinting, and separation of the kernels from the hulls, the former passing on to the cooker and the latter to storage.

From the cooker, the kernel, or meat is fed into the top of an extractor. The solvent moves upwards through the unit, as the meat moves downward by gravity. The extracted oil and solvent then flows from the top of the extractor into a receiving tank.

Known as miscella, the mixture of solvent and oil is filtered to remove the meat residue, flowing from a storage tank through a flask chamber and stripping column where the solvent is separated from the oil for reuse and the oil piped into storage.

Nothing is wasted. The meat is dried for recovery of solvent, the cottonseed meal is conveyed to storage for shipment. The first cut lint is used for felting and padding manufacture. The second cut lint goes into rayon and other cellulose products.

(S. A. L.)

Books, Booklets

"The Corporation—A Brotherhood of Service," by Raymond W. Miller; published by World Trade Relations, Ltd., 632 Investment Bldg., Washington 5, D. C. Looks backward over the source from which corporations sprang, and forward to the goals toward which they must move. Price \$1.

Caustic Soda Book, by Pittsburgh Plate Glass Co., Fifth Ave., at Bellefield, Pittsburgh, Pa., embraces a 72-page text designed for use by technical men, buyers and executives interested in the economics of caustic soda, operations men interested in methods of handling, engineers who design equipment and students who desire informational data on the subject. Write on letterhead to company for copy.

Rivnut Data Book, by The B. F. Goodrich Co., Akron, O., available on request; gives informational data on use and application of one-piece blind fasteners which serve as blind rivets; also nut plates for attachment; included is information on thread strength, eccentric, tension loads and torque resistance.

AAF In Industry, by American Air Filter Co., First and Central Aves., Louisville 8, Ky., is a 23-page illustrated booklet discussing various types of industrial dust problems and typical applications of filters to solve the problems; issued by the company free upon request.

Iron Shortage, by Allis Chalmers Mfg. Co., Milwaukee, Wis., describes current shortage of iron scrap and appeal that is being made to farmers, contractors and equipment users of all kinds to haul scrap iron to their nearest scrap dealer; explains how the shortage is holding up the manufacture of farm, industrial and home equipment.

Let's We Forget, by The Corbitt Co., Henderson, N. C., issued in recognition of the loyal and cooperative wartime spirit of the company's employees; describes pictorially the development of the company and the various departments at work.

Machine Tools, a new booklet by The Cross Co., Detroit, Mich., explains in photographs and diagrams machines developed for pointing and chamfering spur, helical and bevel gears and splines. Written along practical lines it explains the generating action utilized in continuous rotary cutting motion.

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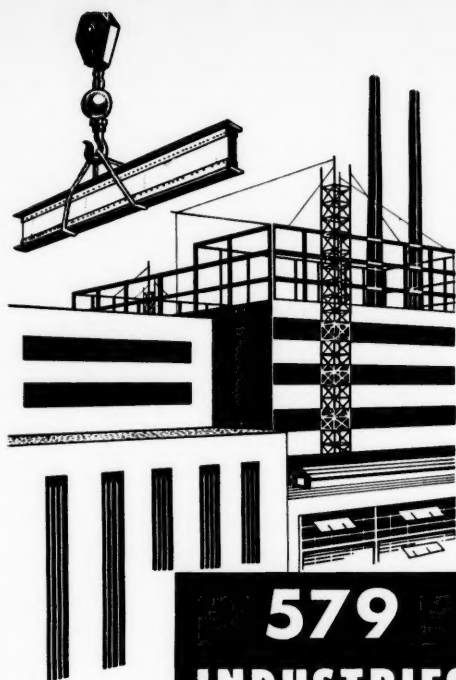
Write for bulletins illustrating and describing Whitcomb Locomotives, both Diesel electric and Diesel mechanical models from 3 to 80 tons.



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Dallas T. Daily, General Industrial Agent,
Seaboard Air Line Railroad Company,
Norfolk 10, Va.



REA Loans Near \$1 Billion

Loans of the Rural Electrification Administration now total approximately one billion dollars. Since the federal rural electrification program began May 11, 1935, REA has made loans to 1,011 borrowers, which include 931 cooperatives, 40 public power districts, 20 other public bodies, and 20 power companies. Of the cooperatives, 894 are organized to furnish electric service and 37 are concerned only with refrigerated locker plants. Of the billion dollars in loans approved by REA, 89 per cent has been for electric distribution systems, 9.6 per cent for generation and transmission facilities, and 1.4 per cent to finance wiring and plumbing in homes of consumers and electrically operated appliances and equipment. Since the end of the war in Europe, REA has approved nearly \$500,000,000 in loans. REA-financed large-scale construction, virtually halted during the war years and hampered during the reconversion period by materials shortages, is now beginning to move rapidly ahead. REA borrowers added an average of 21,000 new consumers a month in the last half of 1946, and the rate is now about 25,000 a month. REA officials predict that as materials become more rapidly available, line construction will proceed at an increasingly rapid pace.

Annual Reports

Lion Oil Co., El Dorado, Ark., together with subsidiary, for 1946, set a new record for its annual net income at \$3,965,779, an increase of 137 per cent over the \$1,670,689 earned in 1945. Income for 1946 was equivalent to 6.78 per common stock share, compared with \$3.54 in 1945.

Burroughs Adding Machine Co., 6071 Second Ave., Detroit 32, Mich., in 1946 earned net income of \$1,992,149, against \$1,259,051 in 1945. Total income from sales in 1946 amounted to \$46,240,978, compared to \$37,592,098 in 1945.

United States Steel Corp., reports in its 1946 annual report, that the year was one of readjustments, seriously aggravated by work stoppages. Income of the corporation and subsidiaries was \$88,622,475, but would have been only \$59,400,000 had not readjustment costs been charged off to a special reserve set up in earlier years. The report noted that profit per dollar of sales was the lowest for any peacetime year of comparable steel shipments.

Illinois Central Railroad Co., reports gross income for the past year of \$215,443,216 and expenditures of \$207,980,641. Of the revenue dollar, 76.75 cents came from freight, 14.5 cents from passengers, 4 cents from express, mail, baggage, parlor car and dining car service, and 2.75 cents from switching and similar operations. The out-going dollar consisted of 52.5 cents for wages, 28.75 cents for material and equipment, 10.5 cents for taxes, 4.75 cents for interest and 3.5 cents for all other purposes.

Bulletins

Economy Pumps, Inc., Hamilton, O., describing Type CS vertically split multi-stage pumps; contains details of construction and performance curves.

Ross Carrier Co., Benton Harbor, Mich., describing Ross Series 5 hydraulic lift trucks, showing hoisting speeds 45 feet per minute up, and 45 feet per minute down; twin hoisting units, twin tilt units, lifting forks, travel speeds and other pertinent information.

Old Dominion Box Co., Charlotte, N. C., pictorially describing how large business houses make use of proper packaging facilities; also

explains product research, merchandising and creative design. Most recent facilities for solving packaging problems are described.

Chambers Engineering Co., Chambersburg, Pa., describing Cesostamp, a stamp designed for forming sheet metal parts by impact. Wartime use in the formation of aircraft parts is shown now, supplemented by use in formation of car and bus panels and other peacetime purposes.

American Flange & Mfg. Co., 30 Rockefeller Plaza, New York, N. Y., illustrating Ferro-Therm home insulation, known as reflective insulation for its use as a protective shield resistant to fire, rodents, insects and termites.

Catalogs

Chrysler Corp., Dayton, O., Airtemp Division, outlining heating, air conditioning and refrigeration equipment; includes year around equipment, winter equipment and cooling equipment; gas-fired, oil-fired and stoker types described.

B. F. Goodrich Co., Akron, O., new catalog section on air hose for industrial use; construction, advantages and applications described; also data on sizes, braids, plies, poundage, and outside diameters and working pressures.

Clark Equipment Co., Battle Creek, Mich., covering line of material handling machines, both gas and battery powered, manufactured by the Trutractor division of the company; included are specifications for fork lift trucks, towing tractors, pneumatic tired fork trucks, and a wide variety of handling attachments for use on fork trucks; featured is a 7-page series of pictures of the equipment in action.

F. J. Stokes Machine Co., Tabor Road, Philadelphia 20, Pa., listing new tube filling, closing and sealing machines; shows machines for handling liquids, semi-liquids and heavy pastes such as creams, ointments, paint pigments, glue, chemicals, food specialties and related products.

Allied Radio Corp., 833 W. Jackson Blvd., Chicago, Ill., covering radio and electronic products; emphasis on equipment for industrial maintenance, research and production; includes tubes, test instruments, transformers, resistors, condensers, rheostats, relays, switches, rectifiers, and related equipment.

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